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TARGETING AND LABOR SUPPLY EFFECT OF THE REGULAR SOCIAL ASSISTANCE

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Summary

Almost 150 thousand persons receive regular social assistance

The regular social assistance (RSA) is the only benefit of substantial magnitude available to unemployed persons not eligible for insured unemployment benefit and currently the most significant means-tested cash benefit in Hungary.

Means-tested benefits are cheaper but not always efficient

The advantage of means-tested benefits is that, since the scope of eligibility is narrower, they are cheaper for the state and better targeted than universal benefits. They have the disadvantage, however, that the evaluation of claims is more complicated, the benefit may not reach all in the target group and it may reduce the willingness to work. This paper is a first attempt to assess the effectiveness and efficiency of the means tested RSA using microdata.

The take-up rate is usually well below 100%

According to international experience, the take-up rate of social programmes is far below 100%, which is attributable to lack of information, the costs of applying for the benefit and stigmatisation related to claiming.

Social benefits reduce willingness to work both in theory and in empirical evidence

Means-tested benefits conditional on unemployment may reduce labour supply. They may generate a poverty trap, where the total net income available from employment would be less, or barely more, than the income available as a benefit recipient. According to empirical studies, means-tested benefits reduce the labour supply of the beneficiaries by 5-50 percent.

Household survey data show a take-up rate of 55-57% in Hungary

Using the 2003 Household Budget Survey, we estimated the take-up rate of regular social assistance to be around 55-57%. 83% of recipients come from the poorer third of households. About 30 % of the recipients, however, are ineligible claimants.

Being well informed and having a strong link to the labour market are the factors that have the largest effect on the likelihood of claiming the benefit: the probability of receiving such benefits is almost 35% lower among those with no prior labour market experience. Higher school qualifications significantly reduce the likelihood of benefit receipt, which may be partly attributed to the stigmatizing effect of the benefit.

In LFS based estimates, the RSA reduces the probability of becoming employed

Using quarterly Labour Force Survey data for 2001-2004, we find that both unemployed recipients of regular social assistance and persons on public work are less likely to enter non-subsidised employment than other unemployed or inactive persons. Controlling for observed characteristics, we find that the chances of male benefit recipients to take up employment in the next quarter are 35% lower than those of their non-benefit-recipient counterparts, while the same ratio for females was 30%. Other factors reducing the probability of employment include the duration of unemployment (by 4-6% per month) and the unemployment rate of the region (by 8% per percentage point). Due to the lower probability of finding a job, benefit recipients remain unemployed two years longer than their non-recipient peers. This, however, may be attributable to the non-observed characteristics of recipients.

1. Introduction*

In the welfare system, cash and in-kind benefits may take three main forms (Barr, 1998):

1. insurance-based or "quasi-insurance" (Semjén, 1996) benefits, i.e., those based on some previous contribution, generally linked to former employment or earnings;
2. universal benefits, with automatic eligibility if certain conditions are satisfied, irrespective of income;
3. means-tested, targeted benefits, generally linked to an income test (e.g. the regular social assistance in Hungary).

All three modes of support have their objectives, ideologies, advantages and drawbacks. In this paper we discuss means-tested benefits only.

The purpose of the means-tested, income-linked benefit, or social benefit (Mózer, 2003) is to improve the income position of poor social groups. As its most important feature, eligibility and, in some cases, also the amount of the benefit depends on the income of applicants. Its advantage is that, in theory, the available resources can be used more efficiently. Its efficiency partly results from the fact that the same additional income results in greater (marginal) utility for low-income persons that for their higher-income counterparts; furthermore, when the same budget resources are allocated only to the indigent, income inequality may be reduced to a greater extent with the same expenditure. Thus we might say that such benefits have a greater impact on redistribution, or the same degree of redistribution can be achieved at a lower cost than with universal benefits.

Its main drawback, on the other hand, is that the establishment of eligibility is more complicated, thus some of the public funds saved on the payment of benefits must be used towards the greater administration costs of establishing eligibility and disbursement. Another drawback of social benefits is their imperfect targeting: there are non-eligible recipients, while those that would, in fact, be eligible to receive such benefits are not always reached. One of the

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causes is the frequent stigmatisation of applicants for and recipient of benefits, therefore some of them will rather do without the assistance. Partly due to stigmatisation and partly because of the narrow scope of eligibility (the benefits are financed from taxes, therefore non-eligible persons have no interest in maintaining the benefit or its level), the social backing of such programmes may be weaker than of the other two types of benefits[1]

Finally, as another problem, targeted benefits may reduce willingness to work. This effect depends both on the eligibility rules and on the amount of the benefit, but there is general agreement that benefits tied to income offer a disincentive to the labour supply, [2] and in certain cases may lead to a poverty trap. A poverty trap emerges when the increase of labour income does not increase, or even decreases, net income because of the higher tax burden or the loss of income-linked benefits. In a broader sense, the trap does not necessarily require net income to actually decline, it is sufficient to have a very small net income increase, thus the financial incentive to take up employment is very small or even negative (for more detail, see Chapter 3).

The welfare systems of developed countries and in particular of the EU-15 member states may be classified into four main groups: (1) liberal, (2) Scandinavian / social democratic, (3) conservative / corporatist, or (4) southern European welfare models (Esping-Andersen, 1990; Sapir, 2005). The reasons for the evolution of these models lie in their historic background[3], but by now the scope of the welfare system and the relative significance of the aforementioned three types of benefits have become the most important factors of differentiation.

In countries that belong to the liberal category (e.g., United Kingdom, Ireland, the Netherlands), there is a strong emphasis on the responsibility of the individual and on market mechanisms. Accordingly, the weight of the social security system and of universal benefits available to all citizens is smaller than in other

[1] The economic model, based on the median voter theory, is explained by Gelbach and Pritchett (1997), for instance. There is no empirical evidence for weaker political backing in Hungary.

[2] Most forms of benefits have some disincentive effects because they reduce the marginal utility of labour income. The negative tax rate is an important exception, as it can be used only by persons with labour income.

[3] Esping-Andersen (1990) provide a good overview; for its summary, see Németh (2004).

models. In the conservative model (e.g., Germany, France), the social security system plays the main role, thus most cash benefits are proportionate to the previous income (contributions). This social security system is supplemented by a medium-sized social benefit scheme in order to reduce income inequality. In Scandinavian countries, which generally seek to increase employment levels and to reduce income inequalities as much as possible, universal benefits are typical, and the number and significance of income-based transfers are relatively small. The welfare systems of southern European countries are underdeveloped as compared to the other models: eligibility, although determined centrally, is often difficult to enforce at the local level. The major part of benefits is tied to income, and further regulated by many additional criteria. As a result, relatively few people receive benefits, and the amounts of these benefits are low.

Of the four models, Hungary is closest to the conservative one, though this similarity is not attributable to the significance of the income-linked benefit systems.[4] At the time of the systemic change, the Hungarian welfare system consisted primarily of universal benefits. The main reasons were ideological: socialism promised full employment and equal benefits to every citizen – a selective benefit system targeting of the poor would have questioned the realisation of those achievements. In practical terms, the system operated quite satisfactorily. Against the background of a high employment rate and modest income differences, the relative income position was determined mostly by the number of children in the family, therefore the universal family support could effectively reach the poorest. After the systemic change, the increasing scarcity of budget resources and the growing ratio of people left behind, however, gradually strengthened the role of more targeted, means-tested benefits (Semjén, 1996). Nevertheless, the ratio of state budget expenditures on specifically income-test-linked cash benefits is still very low: they represent 6% of social spending[5], or a mere 0.5% of GDP. Even though in Hungary some of the in-kind benefits are also income-linked, only the Scandinavian countries have a smaller ratio of income-linked targeted benefits on the international scene.

[4] For more details, see Benedek et al. (2006).

[5] The 1.1% of general government expenditures, as indicated in Table 1, amounts to 5.96% of all social spending.

Table 1: Size of welfare and social benefits, 2004

	Expenditure (HUF million)	As % of total expenditure	As % of the GDP
Welfare spending**	**6504,6**	**68,29**	**32,0**
On social purposes*	**1845,3**	**19,40**	**9,2**
1. Cash benefits*	**1004,5**	**10,5**	**5,0**
1.1. Insurance-based payments*	158,9	1,7	0,8
1.2. Non insurance-based payments	447,5	4,7	2,2
1.2.1. Means tested	108,7	1,1	0,5
1.2.2. Universal	338,8	3,6	1,7
1.3. Tax allowances	398,1	4,2	2,0
2. In-kind transfers	**297,6**	**3,1**	**1,5**
3. Price subsidy	**541,5**	**5,7**	**2,7**

Notes: The data in the table are cash based.

* without pension;

** The category of welfare functions includes education, health care, social security, social and welfare services. We consider benefits to be fulfilling a social function if they increase the income or consumption of poorer or disadvantaged social groups.

Source: Benedek et al. (2006)

In 2004, in terms of total expenditure, the regular child protection benefit and the regular social assistance (RSA) represented the most substantial items among means-tested cash benefits (Table 2). The government spent some HUF 70 billion, or close to 70% of such expenditures, on the two in aggregate. As of 2006, the regular child protection benefit was abolished, thus the regular social assistance became the most significant means-tested targeted benefit. [6]

[6] In this paper we discuss only regular social assistance granted to the *unemployed*, leaving aside the effects of the assistance granted to the health-impaired. The latter represent, on average, 6% of regular social assistance recipients.

Table 2: Main income-linked cash benefits, 2004

	Number of recipients (persons th)	Expenditure (HUF million)	Average amount thousand HUF/person/yr
regular child protection benefit	*670**	*42 111*	*63*
*regular social assistance****	*145*	*27 575*	*190*
nursing benefit	38	9 872	260
housing benefit	162	5 673	36
temporary assistance	630**	5 040	8
extraordinary child protection benefit	270*	2 160	8
old age allowance	7	1 447	207
funeral assistance	75	1 275	17
debt management benefit	3	783	261

* number of children in respect of which benefit was paid

** number of benefit recipients (multiple payments are possible)

*** unemployed and health-impaired together

Source: CSO Statistical Yearbook 2004 and homepage of the Ministry of Youth, Family, Social Affairs and Equal Opportunities (http://www.eselyegyenloseg.hu/main.php?folderID=867, downloaded on: 16. February 2006.)

In this paper, we are looking at the targeting and labour market effects of the regular social assistance to the unemployed, which is the most significant means-tested benefit. In the next chapter, we explain the legal background and operation of the regular social assistance. Then we review the theoretical foundations of targeting surveys and labour market effects, and the results of the relevant empirical studies. In connection with the targeting of any social policy programme, three main issues may be examined: First, we may analyse and evaluate the targeting of regulation, i.e., the percentage of the population that society wishes, for one reason or another, to support, that is made eligible to the programme by legal regulations. Secondly, we may measure the ratio of persons actually claiming the benefit within the eligible target group. This is shown by the take-up rate. The measurement of this rate is important for several reasons: a low take-up rate would endanger the principle of equal treatment (some eligible persons receive the benefit, others do not), as well as the attainment of the social policy objectives of the programme. [7] The third aspect of the examination of targeting is the

[7] In the United States, for instance, it has been shown that the number of person living in deep poverty, i.e., below 30% of the median income, could be reduced

ratio of ineligible claims (i.e., overpaid amounts), which could be a problem if it represents additional expenditure for the government and results in the wasteful use of resources. The empirical study of the regular social assistance along these three targeting questions is described in Chapter 4.

As mentioned above, means-tested cash benefits may act as disincentives to the supply of labour. In Hungary, where the low participation and employment rates of the population are among the most serious economic problems, the empirical investigation of that issue is especially important. In Chapter 5, we examine whether the theoretical negative effect of the regular social assistance on the labour supply can be verified empirically. Finally, in Chapter 6 we put forth recommendations for Hungarian social policy, summarising the findings of our analysis.

2. Regulation of the regular social assistance

2.1. The regulation of the RSA between 2000 and 2006

During the 1990's, benefits to the unemployed were tightened severely by the government on several occasions. As one of the steps in that process, the income supplement to the unemployed was gradually phased out from May 2000 onwards, to be replaced by the somewhat lower regular social assistance (RSA). Pursuant to Act III of 1993 on social administration and social benefits, as amended on severally occasions, as of May 2000 those active[8] persons have been eligible for regular social assistance who are afflicted by health impairment or are unemployed, and their livelihood is not assured otherwise. In this paper, we examine only the targeting and labour market effects of the assistance to active unemployed persons; therefore we shall dispense with the discussion of the regulation of eligibility of health impaired persons.

by 70% if the take-up rate of social policy programmes was 100%, that is, if every eligible person received the benefits (Currie, 2003).

[8] A person is active if he/she is looking for work and would be able to enter employment within two weeks. In practical terms, this means those registered unemployed persons who cooperate with the local labour office.

According to the rules effective up to April 2006, livelihood was to be considered to be not assured if the active-age unemployed person [9]

→had monthly income not exceeding 70% of the minimum pension (HUF 15,260 in 2003) and

→had per capita monthly family income not exceeding 80% of the minimum pension (HUF 17,740 in 2003), and

→he/she or his/her family had no property.

The RSA supplemented the personal income of the applicant to 70% of the minimum old-age pension. If the recipient had no income, he/she received 70% of the minimum old-age pension; if he/she had other income, he received the difference between 70% of the minimum old-age pension and his income.

This regulation changed as of 1 April 2006. The double income condition (family and personal) was eliminated, and the benefit was transformed into family support. This means that, from that point on, both eligibility and the amount of the assistance depends on the monthly family income per consumption unit[10]". An unemployed active person is eligible for the assistance if the income per consumption unit in his family is below 90% of the minimum pension (HUF 23,220 in 2006). The amount of the assistance supplements the above family income to the eligibility ceiling, i.e., to 90% of the minimum pension. The use of the consumption unit is a new element in the Hungarian social benefit system, and serves to define needs assessment in a more equitable manner.

Those persons are eligible for regular social assistance who are unemployed, actively looking for a job and are no longer eligible for insured unemployment benefit. Just as in case of other unemployment benefits, eligibility is conditional on the proof of active labour market status. One can be awarded the assistance if, for 1 year before the application and for the entire duration of the disbursement of the assistance, he cooperates with the competent

[9] The detailed analysis was performed on the data of the year 2003, therefore below we set out the eligibility ceilings effective in 2003.

[10] In the consumption-unit-based calculation, the head of the family has a weight of 1, other family members have lower weights, taking into account that expenditures (e.g., utility bills) are not directly proportional to the number of family members. In Hungarian regulations, the multiplier assigned to the spouse or co-habiting partner is 0.9, the first and second child receive 0.8 per child, each additional child has 0.7 per child.

labour centre. An amendment in 2005[11] relaxed previous conditions in that persons who apply for regular social assistance following disbursement of the nursing benefit, child care grant, child care benefit, regular social benefit or other social assistance need to prove cooperation of 3 months rather than 1 year.

One of the objectives of the regular social assistance is to encourage return to employment. This so-called integration programme contains, apart from continuous cooperation with the labour office, the obligation of the benefit recipient to participate in a 30-day public work programme organised by the local government. The legislators had two objectives when imposing this obligation: to eliminate persons who are unemployed only in formal terms, i.e., who are either unable/unwilling to work or who work on the black market while collecting the benefit; and to promote the re-integration of the recipient into a lifestyle required by regular employment, and to reduce the erosion of working capacity.

Eligibility for regular social assistance and the amount of the benefit are determined by the local governments. The regulation allows local governments to depart from the amount specified in law in the upward direction.

The number of regular social assistance recipients (Table 3) reflects the changes in the regulation effective as of May 2000. From that time on, persons who have exhausted their eligibility for the insured unemployment benefit could only apply for regular social assistance. The number of recipients, though it increased considerably in 2000 already, skyrocketed in 2001 and 2002, as the term of income supplement grant expired for the last of the recipients.

[11] Act CLXX of 2005

Table 3 Number of recipients of regular social assistance, 1999-2004

Year	Number of applicants during the year*	Number of beneficiaries	Expenditures (million HUF)	Average monthly amount per head	
				Amount (HUF)	Real value** (2004=100)
1999	22 305	34 480	4 381	10 588	94,1
2000	66 426	47 154	6 256	11 056	89,5
2001	126 213	94 779	14 807	13 019	96,5
2002	130 181	125 894	22 131	14 650	103,2
2003	121 324	138 127	24 880	15 010	101,0
2004	127 172	144 853	27 575	15 864	100,0

* New applications during the year.

** Calculated with the average annual consumer price indices.

Notes: The figures in the table contain the unemployed as well as health impaired assistance recipients. The latter represent only approx. 5-7% of all recipients.

Source: Social Statistical Yearbook, 2001-2004

2.2. Problems with the regulation

Until 2006, means testing for the purposes of the regular social assistance happened based on personal and family income. The combined use of the double income ceiling is infrequent in other countries, while family income is used in several countries. On the other hand, the definition of family in the Hungarian Social Act is rather narrow in international comparison.

In most countries, family means members of the household linked by blood relationship or co-habiting partner status. In contrast, the regulation of the RSA considers the family to mean "nuclear" family, or more specifically, the head of the family, his/her spouse or cohabiting partner and children below 20 years of age[12] without any independent income. Thus the eligibility of any person above 20 years of age and living in the same household as their parents becomes independent of the income of the parents. In other words, under the new rules, an unemployed person living with a pensioner mother or with well-to-do-parents will be equally eligible for the assistance. Similarly, an active-age unemployed parent living

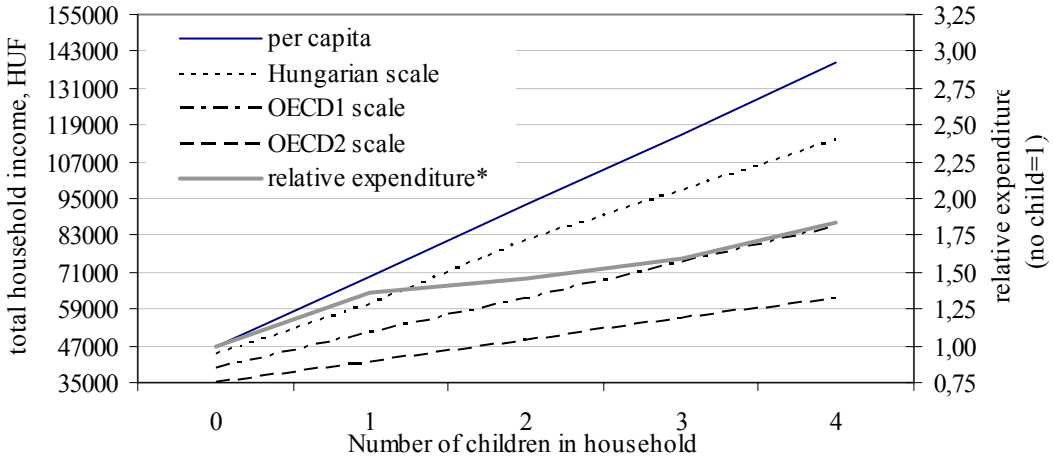
[12] Children participating in full-time education are considered as family members up to the age of 23, children in full-time higher education up to the age of 25.

with his/her adult child and the child's family will also be eligible, irrespective of the financial position of the family as a whole.

This family definition may be justified on moral grounds, on the basis that neither the parents nor the children are responsible to maintain a grown-up person. However, from the distribution angle, it would be more just to define neediness so as to include the income of every member of a household. Here, household means the statistical concept, i.e., the largest unit in which incomes and the costs of living are partly or wholly aggregated and re-distributed. Household-based eligibility takes into account the redistribution of incomes within the household, providing a better measure of real neediness.

The targeting of the assistance is improved by the fact that the family income is to be calculated for consumption units rather than for persons when establishing eligibility. That is because the expenditures of the family are not directly proportional to the number of family members; therefore, under the former regulations, if identical income position is assumed, larger families were favoured, while the use of the consumption unit helps adjust the amount of the assistance to actual expenditures. On the other hand, the weights used for the definition of the consumption unit are different from what is customary in international practice: the expenditures of families with several children are assumed to be higher than they actually are, thus they receive a higher benefit than would be justified. Figure 1 shows the income where a couple would exceed the eligibility ceiling depending on the number of their children and the definition of the consumption unit. If the assistance is awarded based on the per capita income, a couple with two children will be eligible up to an aggregate monthly income of HUF 95 thousand. Under the new Hungarian regulation, they can be awarded benefits up to the income of HUF 83 thousand, while under the OECD standards, their income should not reach HUF 70 thousand (Figure 1). In contrast, the actual expenditures of households with children as compared to couples without children (relative expenditures) increase much less than proportionate for the growth of child numbers. Actual expenditure rates are much closer to the ratios under the OECD1 standards than to the ratios assumed in Hungarian regulations.

Figure 1 Eligibility ceiling for the RSA in a family with a married couple, by definition of consumption unit and number of children, 2006



Note: According to the OECD1(2) standards, the weight of the head of family is 1, the second adult accounts for 0.7 (0.5), children for 0.5 (0.3). Source: Own calculation. For the limit calculation, the minimum pension is HUF 25800, the OECD standards Förster (2005),

* the average of relative expenditures based on the year 2003 CSO HBS (second income quintile).

By way of the criticism of the regular social assistance, the low eligibility ceiling and the low benefit amount can be mentioned. In the Hungarian system, most benefits are tied to the minimum pension rather than to the minimum subsistence level, as in most countries. The minimum pension was below the CSO relative minimum subsistence level indicator already when it was introduced, and it has been getting further away ever since[13]. Due to the relative devaluation of the minimum pension, the income supplementation value of the assistance (for instance, the regular social assistance at 70% of the minimum pension up to 2006) also declined. According to Kőnig (2004), this is the main reason for the drop in the number of recipients of means-tested benefits, and thus the de-emphasizing of social benefits in the Hungarian welfare

[13] The CSO's minimum subsistence level calculation does not reflect the price increase of a given minimum consumer basket; instead, it expresses the average value of the personal consumption expenditures of households consuming a minimum food basket (CSO 2006) This is affected by inflation as well as by real income, thus the indicator specifies a relative minimum compared to an average household rather than an absolute minimum. As an average for the past ten years, the minimum pension increased at a rate above inflation, while the above relative minimum subsistence level increased more, at a rate close to the real income: this is the cause of the widening of the gap.

system. The change of the regulation in 2006 may have considerably increased the amount of the benefit in households with a large number of members; however, because of the absence of data, we have been unable to analyse this.

By delegating the responsibility of establishing eligibility and organising public work to local governments, the assessment of applications has been moved closer to persons in need; however, due to the local differences in organisation and procedure, the uniform and equal treatment, which was the purpose of legislators, is brought to question. Fazekas (2002), who looked at the changes of the regulation of the regular social assistance in 2000, also reached the same conclusion; he said that the benefit award practices of local governments have diverged increasingly, mostly due to the size and financial position of the various local governments.

3. The international practice of benefit payment and theoretical explanations

3.1. The size of the take-up rate

There is extensive international literature dealing with the measurement of the take-up rate (i.e., the ratio of beneficiaries to eligible persons) and, in particular, the examination of means-tested welfare programmes. In order to describe the diversity of the take-up rate, we have summarised the results of some analyses from other countries in a table (Table 4). Most studies - though yielding different results in time and space and by programme - estimate the ratio of persons not receiving benefits despite being eligible to be considerable, at 10-75%. According to Currie (2003), the large differences between countries are attributable to the different data quality and to the differences in the eligibility rules of the programmes and their social backing.

Table 4: Results of studies of the take-up rate

Country	Programme	Period	Take-up rate	Author
Means-tested benefits				
USA	Family benefit (AFDC)	1986-94	62 -70%	Blank and Ruggles, 1996
United Kingdom	Income Support	2000-2002	86%	Department of Work and Pension (DWP)
		2005	90%	
United Kingdom	Job search allowance	2000-2002	51%	DWP
		2005	49%	
France	Income supplement (RMI)	1994-96	52-65%	Terracol, 2002
Germany	Social assistance	1999	48%	Riphahn, 1998
Germany	Housing benefit	2000	60%	Kayser és Frick, 2001
Sweden	Social assistance	1995	20-30%	Gustafsson, 2002
Finland	Social assistance	1998-1999	25%	Virjo, 1999
Insurance-based payments				
USA	Unemployment benefit	1988-90	74 -78%	Blank és Cards, 1991
France	Unemployment benefit	1994	80 – 85%	Currie, 2000

Summarizing the findings of studies of OECD countries, Hernandez, Malherbet and Pellizzari (2004) established that the take-up rate tends to be between 40 and 80 percent. According to the authors, the insufficient effectiveness[14] of welfare benefits is attributable to some of the eligible persons not claiming the benefit (demand side), and also to the state administration mistakenly rejecting claims (supply side). In order to increase effectiveness and attain the social objectives of the benefits, the operation of both sides should be improved, which can be done through the simplification of the claiming process, improving the availability of information and greater integration of the welfare programmes (Hernandez, Malherbet and Pellizzari, 2004).

3.2. *Causes of the low take-up rate*

In economic models, the decision of an individual to claim a benefit he/she is entitled to is affected by three factors: foreseeable benefits and costs, and the information available (Moffitt, 1983). Assuming a reasonable individual, the more he knows about the

[14] By effectiveness we mean the take-up rate.

benefit and the greater the difference between benefits and costs, the greater the probability of claiming the benefit concerned.

The most obvious motivation for claiming the benefit is the financial gain: the higher the amount of the benefit, the greater the motivation for collecting it. The incentive provided by the financial gain is smaller if the individual has other financial resources (e.g., if he can get assistance from the family or friends) or if he considers the present financial difficulties to be short term. Having looked at several demographic groups, Currie (2000) found that in claiming social benefits, the most important factor is the expected amount of the benefit. Based on a quasi-experiment, where certain randomly selected groups were offered assistance of varying amounts linked to different income ceilings, Ashenfelter (1983) verified that the expected financial gain has greater significance (35%).

There are also a number of *costs* associated with the claiming of a benefit. A small portion of there are cash (cost of transport), while most can be measured more in terms of time and effort (administration, queuing, collection of data, continued cooperation with the authorities). The significance of these so-called transaction costs is indicated by the fact that if we reduce them, the take-up rate will go up (Currie and Groger, 2002; Brien and Swann, 1999). For instance, in 1992 some conditions of benefits to poor families (cooperation with the authorities and job search) were relaxed in Canada; as a result, a 10% higher take-up rate was recorded in 2 years' time (Terracol, 2002).

The *stigma* attached to the benefit recipient status represents a special form of cost (Moffitt, 2003). In most developed countries, being in employment and self-sufficient, i.e., earning enough for one's livelihood, is considered to be a value. The more you earn, the more successful you will be in the eyes of the community and the more recognition you will get. Persons not working and living off benefits deviate from social norms, and, as a result, the community may stigmatise them. For fear of that stigmatisation, some of the eligible persons may decide to do without the benefit. The restraining effect of departure from the norm is also present if these norms are personal rather than social. An individual may consider it a personal failure that he must claim a benefit, therefore he may decide not to do so. The stigma and its effects are difficult to measure on their own, so an approximation is generally given through other observable characteristics. Several studies have

shown (Coady and Parker, 2004; Currie, 2003) that ties to religious or other communities increase the feeling of stigmatisation, and persons without such ties more frequently participate in social programmes. Similarly, persons with a pessimistic outlook of their own future, who do not think that they can gain control of their own lives, will claim benefits more frequently (Blank, 1999). It has also been observed that as the eligibility criteria for a benefit are tightened, its stigmatising effect is increased (Coady and Parker, 2004).

Information about the benefit may affect the probability of claiming through more than one mechanisms. First, the eligible person must know about the benefit itself and about where and how it should be claimed (Meyers and Heintze, 1999). The information known to the potential claimant about the criteria of granting the benefit, the entire benefit system and the possible amount of the benefit as well as the administrative burdens related to claiming may also affect the decision whether to claim or not. In theory, the more transparent the system, the more the individual knows about the benefit and the more accurate that information is, the lower his so-called transaction costs and the greater the probability of eventually collecting the benefit (Bertrand, Luttmer and Mullainathan, 2000). Looking at the reasons for the low take-up rate of the US Foodstamps programme, Coe (1979) concluded that 15% of the non-claiming eligible persons were not aware of the benefit, and 35% thought that they were not eligible. In other words, in 50% of the cases the benefit was not claimed due to the lack or insufficiency of information. Daponte, Sanders and Taylor (1999) also found that the role of information was important; they interviewed 405 persons, and found that the subjective and actual eligibility of individuals coincided in only 40% of the cases. Furthermore, after the persons who thought to be ineligible were told that they had the right to claim, 80% of them actually applied for in within six months after the study.

Stigmatisation and under-information are often impossible to observe, therefore their effects can be grasped only through other factors. For instance, in econometric models the type of settlement and school qualifications appear to be significant factors. They affect the take-up rate through transaction costs and, more importantly, through stigmatisation. For instance, persons with higher education degrees or living in villages feel the stigmatisation of benefits more

(Halpern and Hausmann, 1986), therefore fewer of them will claim them.

3.3. Ineligible claiming

The third question of targeting is the extent of ineligible claiming or overpayment, or leakage, due to the payment of benefits in amounts greater than justified. Hungarian regulations allow local governments to depart upwards from the benefit amount specified in law, thus the examination of the latter aspect of overpayment would be meaningless. Therefore in the study we only look at the ratio of claimants who are ineligible due to their personal or per capita family income. The problem of illegitimate claiming is the subject of empirical studies much less frequently than the take-up rate (underpayment problem), but when it is studied, a substantial overpayment of 20-55% is generally found (Coady and Skoufias, 1999), which is attributable to the imperfect access to information of authorities and to administrative errors (Besley and Kanbur, 1990).

3.4. Effects of welfare programmes on the labour supply

The labour market incentive effects of welfare programmes and, in particular, targeted benefits, have been an important subject area for social policy literature. In the United States, the question whether the various welfare programmes change the labour market behaviour of the individual has been investigated since the 1960's, when the number of participants in welfare programmes increased substantially, while their labour market activity declined. Friedman (1962) and Tobin (1965) were the first to state that, because of the structure of the welfare programmes, a marginal tax rate[15] above 100% is very common, which results in a poverty trap (see page 6). That is, under a certain wage, it is not worth taking up employment because on the whole the individual and his family will have less disposable income than they would be able to get from benefits. Such situations, which reduce willingness to work, can be avoided through a negative income tax-type benefit, which gradually reduces the amount of benefit as the income of the individual

[15] The marginal tax rate shows what percentage of an additional unit of income the individual would lose, at any given gross income, due to the rules of the tax and benefit systems.

increases, making sure that the marginal lax rate is always below 100%

Moffit (2002) states about the effects of the existing US welfare programmes on theoretical labour supply that they vary programme by programme: the expressly employment-linked wage supplement benefits have a positive effects, while benefits linked to an income ceiling but not to employment have negative impacts. This may be attributable to two reasons: on the one hand, benefits increase the income available without employment; as a result, there is less financial compulsion to take up work. This is the so-called income effect. On the other hand, social transfers, which decrease as the labour income increases, considerably change the relative marginal utility of labour and spare time, which in turn provides incentive to the gain-maximising consumer to choose less work and more spare time. This is called substitution effect. The size of these two effects depends on individual preferences, the initial labour supply as well as the size and structure of the benefit. In case of income-linked benefits, both the income and the substitution effects work towards reducing the labour supply, i.e., their labour market effect is negative in theory.

Most empirical studies reported negative or neutral labour supply effects. Multivariate estimates relying on individual data have indicated the effects of benefits to poor families with children in the US (AFDC) to be negative (Hoynes, 1996, Meyer and Rosenbaum, 2001) or neutral (Keane, 1998), while the effects of in-kind benefits linked to an income ceiling (foodstamps and health care) to be slightly negative. Moffitt (1992) attributes the difference in the results of empirical studies to the differences in the data and model specifications. In summary, he states that in the absence of means-tested welfare programmes, the number of hours worked by benefit recipients would increase by 10-50%, and these programmes have a negative impact on the labour supply.

The negative labour supply effects of benefits are underpinned by the analyses of the labour market effects of the US welfare reform of 1996. As some of the key elements of the reform, the eligibility for unemployment benefit was made conditional on stringent job search criteria, and was limited to 5 years, furthermore, a so-called earned income tax credit was introduced, linked to employment, to increase financial incentives. Those changes, together with the general economic recovery in the late 90's, increased the labour supply of

former benefit recipients considerably, by some 31-50%, and raised their employment by 28-35% (Bloom and Michalopopoulus, 2001; Elwood, 2000).

In Canada, based on a regulation effective before 1989, single males below 30 years of age and having no children could receive only 60% of the social benefit paid to other unemployed. This discriminative regulation offered a good opportunity for studying the effects of the amount of the benefit. It was shown both with the difference-in-difference method (Fortin et al., 2004) and the duration model (Lemieux and Milligan, 2004) that smaller benefits reduced willingness to work and employment at a lesser degree.

In European literature, the effects of an insurance-based unemployment allowance on employment is studied the most[16], focusing on the role of the amount of benefit and the eligibility period (Lemieux and Milligan, 2004). In theory, the insured unemployment benefit has effects both increasing and reducing the labour supply (Semjén, 1996). On the one hand, it moves the leisure time-income budget limit, thereby reducing activity and raising the reservation wage, which in turn increases the duration of unemployment. On the other hand, assuming that it is difficult to borrow without a job, the costs of job search can be covered from the benefit, thus the probability of finding employment may increase. Finally, the benefit provides an incentive to obtain eligibility, that is, makes employment more attractive than inactivity, even if only temporarily. Because of these contrasting effects, the total impact of the benefit on the labour supply can be established only following empirical studies.

The incentive effects of means-tested benefits to the unemployed have been examined by fewer researchers, and often as compared to the effects of the insured benefit. That is, they examine how much the probability of employment or the duration of unemployment changes after the individual moves from the insured unemployment benefit (UI) to the social benefit. In this context, both Terrel and Sorm (1998) and Micklewright and Nagy (1998) found that the probability of employment increases as the termination of UI draws close, which testifies to the disincentive effects of the UI (potentially as compared to social benefits), rather than of social benefits themselves. Terrel, Erbenova and Sorm (1998) looked

[16] The unemployment benefits in Hungary and the related impact assessments are described in detail by Bódis-Galasi-Micklewright-Nagy (2005).

specifically at the absolute effect of social benefits to the unemployed. Based on the Czech labour force survey data, they detected a significant negative labour supply effect, but only in case of families with several children, who were entitled to considerably higher social benefits than other family types.

Several authors (Lemiuex and MacLeod, 1998; Blank, 1999) found that the eligibility criteria of benefits may affect forms of conduct other than willingness to work. choice between the formal-informal sectors as well as the household structure and the "typical patterns of co-existence" (Semjén, 1996). In this paper, we do not discuss these incentive effects, constraining ourselves to analysing the effects on the labour supply.

3.5. Former empirical studies of the Hungarian regular social assistance

Several Hungarian authors have studied the targeting (effectiveness and efficiency[17]) of social benefits, in particular of the regular social assistance to the unemployed and the problems of their incentive effects. However, we are not aware of any specific study that would have aimed to quantify these, and particularly to measure the take-up rate.

According to Kőnig's (2003) aggregate statistics based calculations, the eligibility ceiling (in 2003, 80% of the minimum pension) is 30-35% lower than the relative poverty threshold[18], therefore at least 100-120 thousand poor unemployed persons are not reached by the assistance.

Micklewright and Nagy (1998) studied the probability of receiving income supplement and its effects on the labour market behaviour among persons whose eligibility for the UI had expired. Their follow-up survey[19] revealed that the claiming behaviour is affected the most by the costs of claiming, the local unemployment rate had a positive impact on the awarding practices of local governments, while the per capita taxable income in the settlement

[17] Here, effectiveness means the take-up rate, while (in)efficiency means illegitimate claiming.

[18] 50% of the per capita median household income.

[19] Their sample included those unemployed persons who became compensation recipients in April-May 1994 and had 11-12 eligible months who were observed either until they found a job or until they exhausted their eligibility for compensation.

was not significant. The former one indicates that the local governments are more liberal in awarding the income supplement in areas where the chances of employment are poor. The per capita income also reflects the financial position of the local government – the fact that it had no observable impact seems to indicate that there is no difference between the benefit award practices of more or less wealthy local governments. In our duration model, the income supplement had no significant effect on job finding, i.e., it had no substantial observable disincentive effect on the labour supply. Therefore the authors concluded that "curtailing the benefits would not significantly accelerate the job finding of unemployed" (p. 423).

The effects of the changes in the assistance to unemployed not eligible for the UI in 2000 were analysed by Galasi and Nagy (2003). They wanted to find out to what extend the switch from the former income supplement to the regular social assistance altered the reemployment chances and income position of persons whose eligibility to the UI expired. To that end, they conducted a follow-up study with two cohorts: one consisting of persons who lost their eligibility for the UI in April 2000, the second, in May 2000. Those who lost their eligibility to the UI in April 2000 received income supplement, while those whose eligibility expired one month later, "only" received the regular social assistance. The comparison revealed that fewer people applied for the regular social assistance, and fewer were awarded, than for its predecessor. In contrast, the lower benefit amount and the absence of any benefit accelerated the finding of employment, while the welfare of those unable to find a job decreased.

4. **Examination of the targeting of the regular social assistance**

The purpose of the regulation of the regular social assistance is to improve the situation of the poorest segment of the population without any labour income. The legislation attempted to restrict the availability of the assistance to the target group by imposing strict income and wealth constraints. In this Chapter, we examine the three questions mentioned above in connection with targeting.

First we will look at the legislative targeting of the assistance: what percentage of poor households are eligible and which criterion causes ineligibility. Secondly, we will analyse the take-up rate (i.e.,

the percentage of eligible persons actually receiving the benefit) and its drivers. Finally, we will examine the rate of ineligible recipients, their identity, and the characteristics of those persons as different from other beneficiaries. Illegitimate use is possible because the awarding local government has no information about some of the income items to be considered for determining eligibility (for instance, income from irregular or illegal employment), thus they are assessed based on the information provided by the claimant. Another reason may be the administrative error of the institution assessing the claim.

4.1. Data

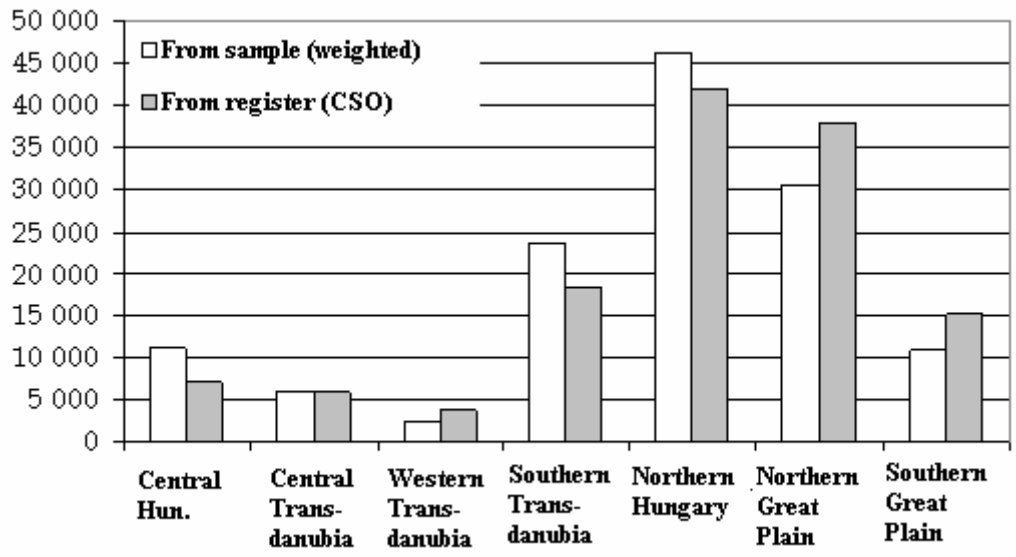
We used the year 2003 data set of the CSO Household Budget Survey (HBS) for the analysis[20] The survey is based on voluntary reporting, therefore refusal to participate in the survey or concealment of income may results in fewer high-income and more low-income households in the survey than it would be realistic. Therefore it shows lower-than-real average income and consumption figures and considerably smaller income and consumption differences (CSO 1997, pp. 23-24.) However, comparison with the administrative data available about the regular social assistance shows that the sample is sufficiently representative.

In our sample, we considered 241 persons to be benefit recipients. Using the HBS weights, this would be 130,602 persons in the entire population, which is 0.5% higher than the figure in the Social Statistical Yearbook and 2% lower than in the year 2003 report of the Ministry of Youth, Family, Social Affairs and Equal

[20] We had two household surveys available: the HBS and the TÁRKI Monitor. The HBS has a separate option, under the economic status of the individual, for regular social assistance recipient status, and the income for regular social assistance is also a separate item in the income questionnaire, while in the TÁRKI Monitor survey, it is aggregated with income from other unemployment-related benefits. The number of benefit recipients and eligible persons is considerably greater in the HBS than in the Monitor. On the other hand, the HBS requests respondents to document their consumption in detail, thus functionally illiterate persons, who tend to be in the lower end of income distribution, may drop out of the survey. Therefore we are likely to underestimate underpayment.

Opportunities (129890 and 132749 persons, respectively)[21]. In terms of the regional distribution of recipients, the distribution in the sample is slightly different from the local government administrative figures disclosed by the CSO (Figure 2): as compared to the figures in the register, recipients are underrepresented in the Northern and Southern Great Plain and overrepresented in Central Hungary and the Southern Transdanubia in our sample.

Figure 2: Regional distribution of benefit recipients, 2003 (persons)



Source: CSO Social Stat. Yearbook 2003, and own calculations based on the 2003 CSO HBS.

4.2. What percentage of the poor is reached by the regular social assistance?

The primary target group of means-tested, income-linked benefits is the poor. Therefore, regulation is well targeted if the eligibility criteria successfully delimit the poor, i.e., we must see the percentage of the poor covered by person eligible under the legal regulations. In line with international literature, we consider those persons to be poor for whom the per capita (as per OECD1) equivalent household income is below 50% of the median per capita equivalent household income.

[21] The difference may be attributed to the fact that the MYFSEO uses the data of the Ministry of Interior, while the Social Statistical Yearbook relies on local government questionnaires.

Table 5: Legal targeting of the RSA (thousand persons, 2003)

		Not eligible	Eligible to assistance**	Total
Poor* households with at least one person of active age		91 ,1	53,3	144,4
From which:***	Due to household income criterion	39 ,2		
	Due to personal income criterion	2 ,6		
	Not eligible due to labour market status	49 ,3		

* Below half of the median per capita equivalent income.

** Those households are considered to be eligible that contained at least one person eligible for RSA under the legislative criteria.

*** To assess eligibility, we first looked at the household income criterion, then the personal income criterion, finally labour market status. If a household was ineligible based on more than one criterion, we classified it into the various groups based on the order described above.

Source: Own calculations based on the 2003 CSO HBS, with HBS weights.

As a result of the RSA rules, 63% of the poor households were left out of the assistance (Table 5). This is primarily because the regulation makes eligibility conditional on household income (HUF 17,400 per month in 2003) 33% lower than the poverty threshold (HUF 26,300 per month). In case of households satisfying the income criteria, the labour market status[22] represents an additional constraint; as a result, some 50,000 households are ineligible to the benefit.

Thus we found that assistance to poor households is severely constrained by the (overly) low income and labour market status legislative conditions of the RSA. The regulation introduced in 2006 alleviated that problem: even though the introduction of the consumption unit deprived some 3,700 household of eligibility, but the abolition of the personal income ceiling and the increase of the family income ceiling brought some 5000 poor households into the scope of eligibility.

[22] In the HBS, the question on labour market status (in the wording of the questionnaire: current economic activity) combines economic activity (active, unemployed, inactive) and transfer statuses (pensioner, childcare allowance recipient, etc.). The main alternatives: employed, member of cooperative, entrepreneur, unpaid family worker, on maternity leave, receives child care benefit, unemployed, pensioner, recipient of other regular social assistance, receives nursing benefit, receives disability annuity or disability benefit, lives off wealth, dependent.

4.3. The examination of the take-up rate

According to the regulation, the assessment of the eligibility of any person depends on his labour market status, income and wealth position, cooperation with the labour centres and participation in public work. Of these criteria, the HBS allows the examination of the labour market status (i.e., whether someone is an active-aged unemployed) and the income position. Therefore the scope of eligibility as we defined it is probably broader than the actual group of eligible persons.

According to labour market status, we considered to be eligible for regular social assistance those unemployed who reported to be recipients of regular social assistance or to receive no benefits *at the time of the survey*. [23] Furthermore, we classified in this group homemakers and students in part-time education, because in there case there is no condition to disqualify them, and they may consider themselves to belong to one of the above categories by labour market status rather than to be unemployed. On the other hand, as Table 6 shows, only a small portion (13.5%) of eligible persons fall into the latter two categories.

The HBS considers the income and expenditures of the one year before the survey, on the annual level. However, in connection with the various income items, it only establishes for how many months the individuals received them, but it does not identify those months. In order to establish eligibility, however, it would be necessary to know the various types of income by month, because this would be necessary to establish whether the individual was eligible for RSA at the time of the survey. In the absence of that information, we took the *annual* income as the basis for examining satisfaction of the income criterion.

However, this is different from the calculation method used by local governments. Pursuant to the Act[24], for the calculation of income a maximum of 3 months are considered in case of regular monthly income types, and 12 months for other types of income. However, as eligible persons tend not to have any regular income, the difference is likely to be insignificant in case of personal income.

[23] In the HBS, apart from the 'unemployed' category, there are the following alternatives: (1) receives no benefit, (2) receives (unemployment) compensation/benefit, (3) receives (regular) social assistance.
[24] Act III of 1993, Section 10 (1).

The difference may be greater in case of household or family income – this issue will be discussed in more detail in the next section.

By income, we considered those persons to be eligible whose per capita family/household or personal income was below 80 or 70%, respectively, of the minimum pension (HUF 17,440 or 15,260, respectively). The family and household incomes may be different[25], which may lead to different classification (see Table 6). The HBS primarily surveys household income, while the legal regulation pertains to the family. Therefore, as far as the data allowed, we attempted to also define eligibility based on family income. When defining family income, the allocation of incomes received on the household level (e.g., family benefit) represented a problem. Our approach was to allocate the child-related benefits in proportion to the number of children in the family, and other household-level forms of income in proportion to the number of family members.

The decision about the inclusion of the various income items in personal or household (family) income calculations was taken based on local government questionnaires[26].

In the HBS, two questions may indicate regular social assistance recipient status. On the one hand, in the questionnaire, 'unemployed person receiving RSA' is an alternative response under labour market status, and on the other hand, income from RSA in the given year is measured among receipts. The responses to the two questions may be contradictory. We considered being beneficiaries those unemployed persons who, *at the time of the survey*, received regular social assistance, as well as unemployed persons receiving no benefits who reported income from regular social assistance.

[25] In the HBS, household is "the entirety of persons who form a single economic, income and consumption community, and bear, partly or wholly, their regular living expenditures together. The concept of household is not the same as the family; it is not based on blood relations, it is not a legal concept; instead, it has economic content." (CSO 1997, p. 63) According to legislation, family means the community of close relatives living in the same home, having a registered place of residence or place of abode there (spouse, cohabiting partner, child without independent income below the age of 25) (Act III of 1993, Section 4 (1)).

[26] In personal income, we included income from real property, non-regular benefits, pensions, nursing benefit and income received under other titles. In household/family income, we included all income received by the household (e.g., family benefit) and the net personal income of other household members (with the exception of income from tips, severance pay and cost reimbursement). Eligibility was established based on the total household income per household member and per month (see also Annex F1).

Furthermore, we considered as recipients those self-reported home-makers and part-time students who had income from regular social assistance. Table 6 shows the distribution of recipients and eligible persons by labour market status.

Table 6: Labour market status of recipients and eligible persons (2003)

	Sample data (persons)			Weighted data (persons th)		
	Recipient	Eligible (family income)	Eligible (household income)	Recipient	Eligible (family income)	Eligible (household income)
Unemployed RSA-recipient	237	179	152	129 ,4	96 ,2	75 ,8
Unemployed persons receiving no benefits	2	224	151	0,4	42 ,2	25,5
Home-maker	2	44	36	0,9	16 ,6	13,1
Part-time students	0	14	11	0	5,0	4 ,3
Total	241	461	350	130,6	160,0	118,7

Source: Own calculations based on the 2003 CSO HBS.

Using weighting to represent the entire population, based on the above definition, close to 119 thousand persons can be considered eligible on the basis of household income, and 160 thousand persons if eligibility is determined on the basis of family income. Table 7 illustrates the relationship of the groups of eligible persons and recipients.

Table 7: Distribution of recipients and eligible persons within the active-age population (thousand persons)

		Non-recipients a)	Recipients b)	Total c)	Take-up rate *b/c*
On the basis of family income	Not eligible	6 169,0	43,2	6 212,2	
	Eligible	72,6	87,4	160 ,0	55%
	Total	6 241,6	130,6	6 372,2	
On the basis of household income	Not eligible	6 191,0	62,5	6 253,6	
	Eligible	50,6	68,1	118,7	57%
	Total	6 241,6	130,6	6 372,2	

Source: Own calculations based on the 2003 CSO HBS, with HBS weights.

The value of the take-up rate is 57% when calculated with household income and 55% with family income. These results show

that at least 40% of those eligible for regular social assistance do not receive it.

4.4. Who receive regular social assistance?

Below we examine who, of the eligible persons, eventually receive the assistance. The comparison of the main characteristics of (ineligible) recipients and eligible persons shows (Table 8) that among recipients, the ratio of persons living in villages is larger, they typically live in regions with higher unemployment rates and more of them live in households with at most one active member. In contrast, only 2.1% of recipients had had no previous employment – this ratio was over 12% for eligible persons. As compared to the age 15-62 population, the ratio of men is higher both among recipients and eligible persons, while in terms of average age, recipients are older, eligible persons are younger than the adult population.

Table 8: Characteristics of eligible recipients and of all eligible persons

	Recipients	Eligible (household income)	Eligible (family income)	Between the age of 15-62
Age	39,4	37,5	37,4	38,7
Number of persons in household	3,6	3,9	3,9	3,5
Number of persons in family	2,9	3,2	2,9	2,9
Ratio of males	60,0%	55,0%	57,2%	49,0%
Persons living in villages	57,2%	57,6%	56,2%	34,7%
Unemployment rate of the county	8,2%	8,1%	7,9%	6,1%
Never worked	2,1%	12,3%	12,0%	16,1%
At most one active member int he household	80,6%	79,8%	76,8%	73,7%

Source: Own calculations based on the 2003 CSO figures, with HBS weights.

Simple averages conceal the composition effects, therefore we also used a multivariate model[27] to find out which characteristics are different between eligible persons claiming and not claiming regular social assistance (Table 9). We separately analysed women and men,

[27] The model estimates how the various characteristics of the individual, having eliminated other effects, influence the probability of actually collecting the benefit if eligible.

as well as persons eligible based on household versus family income. We also examined factors that we expected to have some effect on the collection of the benefit.

Examples include, for instance, the estimated amount of the benefit, which we expected to have a positive effect on claiming because of the stronger financial incentive. Higher school qualification was expected to have a negative impact on the probability of claiming due to the stigmatisation effect. The absence of previous employment was expected to reduce the probability of obtaining the benefit, because school leavers are likely to be less familiar with the labour market institution systems, and have less information about the criteria applicable to benefits. The number of active persons in the family is also expected to have a negative effect on claiming because households with another active income earner are likely to have less need for the benefit. Finally, the stigmatizing effect of the benefit may be stronger in small settlements; therefore, all else being equal, we expect residents of small communities to be less inclined to collect the benefit. In the course of the analysis we also eliminated the effect of age. For the detailed description of the model, see Annex F2.

Table 9: Effects of individual characteristics affecting claiming

Variable	Family income		Household income	
	Men	Women	Men	Women
Estimated assistance (log)*	0,0267	–	0,0462	–
	(0,725)	–	(0,554)	–
Household income (log)	**0,0129**	0,0096	**0,0185**	0,0127
	(0,023)	(0,165)	**(0,034)**	(0,210)
At most 1 active member int he household	**0,1243**	**0,1798**	**0,2641**	**0,1461**
	(0,074)	**(0,005)**	**(0,000)**	**(0,059)**
18-24 years old	-0,0927	-0,0588	0,0275	-0,0838
	(0,503)	(0,653)	(0,866)	(0,632)
25-34 years old	0,0145	-0,0715	0,1278	-0,0925
	(0,925)	(0,621)	(0,526)	(0,687)
35-54 years old	0,0619	0,0143	0,1639	0,0033
	(0,684)	(0,923)	(0,377)	(0,987)
Elementary school qualification	0,0906	-0,1049	0,1234	-0,0844
	(0,396)	(0,284)	(0,247)	(0,449)
Skilled worker (technical school) qualification	-0,0991	-0,1459	-0,1109	-0,1541
	(0,334)	(0,152)	(0,284)	(0,201)
Secondary qualification**	**-0,2424**	**-0,1710**	-0,1594	-0,1285
	(0,023)	**(0,085)**	(0,322)	(0,285)

Household with at least one child under the age of 15	**-0,1636**	0,0226	**-0,1895**	0,0239
	(0,005)	(0,747)	**(0,008)**	(0,759)
Never worked before	**-0,2825**	**-0,3457**	**-0,2886**	**-0,3571**
	(0,001)	**(0,000)**	**(0,007)**	**(0,000)**
Unemployment rate of the county (%)	**0,0582**	**0,0571**	**0,0677**	**0,0572**
	(0,000)	**(0,000)**	**(0,000)**	**(0,000)**
Budapest***	–	-0,0573	–	0,0565
	–	(0,771)	–	(0,842)
City with county rank	**-0,2693**	-0,0099	**-0,2890**	-0,0011
	(0,001)	(0,924)	**(0,001)**	(0,994)
Other city	-0,0547	-0,0585	-0,0584	-0,0651
	(0,398)	(0,352)	(0,437)	(0,342)
Sample size	245	182	190	143
Pseudo-R^2	0,226	0,225	0,246	0,209

* For women not receiving the benefit, the personal income is always HUF 0 (and the estimated amount of the benefit is equal), therefore we left that variable out of the regression analysis.

** There were no university or collage graduates among recipients, therefore we left that category out from the eligible group.

*** Male recipients included no Budapest inhabitants, therefore we omitted that variable from the regression in our case.

Notes: Probit regression with robust standard errors. The table shows average partial effects, with p-values in parentheses. The dependent variable was recipient status. Variables significant at the 10% level are indicated in bold letters. Benchmark: persons above 55 years of age, not having completed elementary school, persons living in villages.

Source: Own calculations based on the 2003 CSO HBS.

We found that the factor with the strongest effect on claiming was having never worked before. All else being equal, this reduces the probability of receiving the benefit by 28 percentage points for men and 35 for women (which corresponds to 55-57% of the eligible persons on average, Table 9). There may be two explanations for this. On the one hand, it indicates the general level of information about benefits, because if you have never worked, you are less likely to have been informed about the possibility of benefits. On the other hand, it also indicates the links of the person concerned to the labour market. One third of such eligible persons are above 35 years old; in their case, information probably has less of a role. In this case, they probably are unwilling to take up employment, therefore they will not undertake to satisfy the criterion of cooperation with the

labour centre. Based on the available data, we have been unable to examine this eligibility criterion.

The 7 percentage point difference between men and women is attributable to similar factors: the inactivity rate is considerably higher among women (in 2003, that rate was 32.4% among men in the 15-64 age group, and 46% among women of the same age), thus they are probably more likely to fail to satisfy the active job search criterion. [28]

The estimated value of the benefit has no substantive effect on claiming, which is probably related to the fact that in our sample the estimated benefit amount is the highest possible (HUF 15 260 per month) for 97% of eligible persons, therefore in this respect there is no significant difference between recipient and non-recipient eligible persons.

As we expected, in families with a maximum of one active member the likelihood of obtaining the benefit is 12% higher for men and 19% higher for women, which indicates that the means-testing is working. The positive effect of the county's unemployment rate on claiming may also be related to this fact. Where the county's unemployment rate is 1 percentage point higher, the probability of obtaining the benefit is almost 6% greater.

As expected, the ratio of more senior school (secondary) qualification holders is smaller among recipients, which is probably attributable to the stigmatizing effect of the benefit. Secondary qualifications reduce the probability of receiving the benefit by 24 percentage points for men and 17 points for women as compared to elementary school qualification. Based on the theory, we expected household income to have a negative effect, but we found a positive correlation. We wished to capture the degree of neediness with the variable, and we found that within the bounds of eligibility, the poorer a household, the less likely it is to receive the benefit. This may be related to the mode of claiming and its costs – however, more analysis would be needed to state this with any certainty.

4.5. Who are the ineligible recipients?

At this stage, we examined to what extent the ratio of illegitimate claiming is a problem in the case of the social assistance.

[28] Persons who are in reality inactive may be eligible in our case because our scope of eligibility is broader than the actual group (see p. 26).

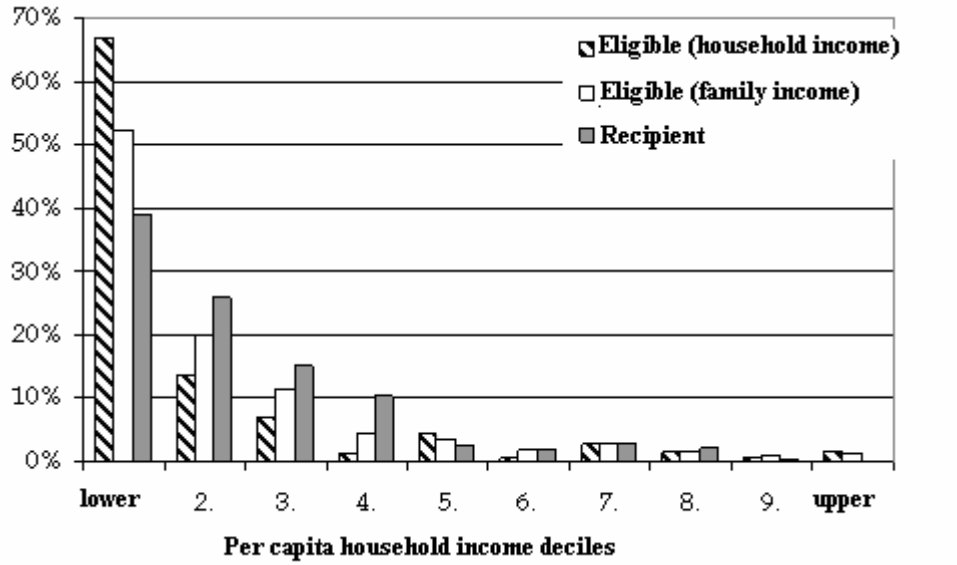
Local governments have no clear information about the income position of individuals, therefore the income taken into account when awarding the benefit may underestimate the actual level, therefore persons who are in fact ineligible may be found eligible. Using the definition of recipient and eligible person described above, based on household income, 48% of the recipients may be considered ineligible, while based on the family income as described in legislation, 33% fall into that category (Table 7). The examination of the causes of ineligibility (Table 10) reveals that the majority of recipients would be ineligible due to their household income, i.e., most recipients are in a better income position that the eligibility criterion specified in law. This is illustrated also by the relative income position calculated from the total annual household income (Figure 3): 20% of recipients are outside the bottom three deciles, while this ratio is close to 12% in case of eligible persons (both in terms of household and family income).

Table 10: Causes of ineligible claiming (thousand persons, 2003)

Cause of ineligibility	On the basis of family income	On the basis of household income
High household (family) income	40 ,4	59 ,7
High personal income	2 ,8	2 ,8
Total	43 ,2	62 ,5

Source: Own calculations based on the 2003 CSO HBS, with HBS weights.

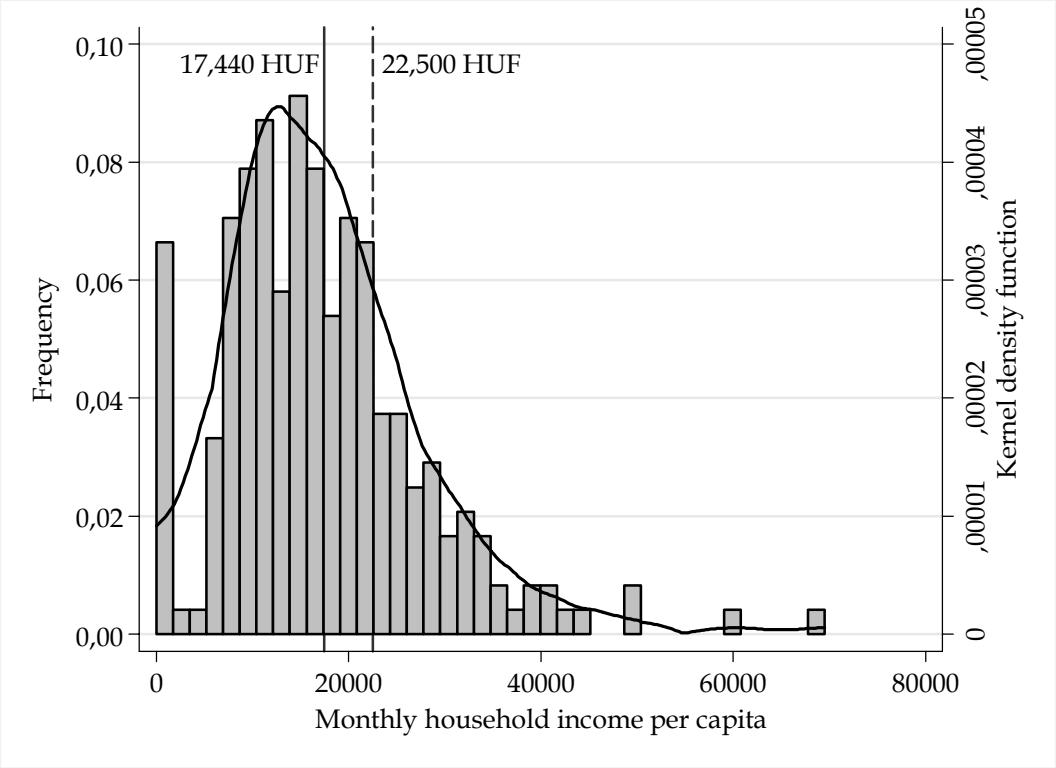
Figure 3: Distribution of recipients and eligible persons by per capita household income



Notes: For the calculation of the income deciles, we took into account *all* the income recorded in the year.
Source: Own calculations based on the 2003 CSO HBS.

Figure 4 shows the income distribution of recipients by household income, taken into account for assessment. The first vertical line shows the eligibility criterion set out in legislation (HUF 17,440). The figure reveals a break at monthly income of approx. HUF 22,500; few recipients have income above that level. In our opinion, the difference between these two "ceilings" may be attributable to the fact that based on the income data available in the HBS, the data in the claim form are impossible to reconstruct with certainty. The income reported in the HBS may be higher than the income disclosed in the local government forms because there is no benefit to be gained from concealing them. Alternatively, the difference between the income figures from the two data sources may be due to the fact that in case of regular monthly income types, the local governments take into account the three months preceding claiming, while we looked at the income during the year. Therefore recipients in the HUF 17,440 - 22,500 interval may be eligible recipients.

Figure 4 Distribution of recipients by per capita household income



Source: Own calculations based on the 2003 CSO HBS.

If we use a HUF 22,500 eligibility threshold in our calculation, the number of ineligible claimants drops by some 40%, thus the illegitimate claiming changes to 20% and 29% (based on family or household income, respectively) (Table 11). On the other hand, the less stringent criterion reduces the take-up rate (from 55% to 50%). However, because of the legislative criteria we did not examine (which affect effectively only the eligible persons, as these are examined at the time of claiming in case of recipients), the above eligibility is likely to be broader than in reality. That is, the take-up rate is more likely to be above 50%.

Table 11: Distribution of recipients and eligible persons within the active-age population assuming a HUF 22,500 eligibility ceiling (thousand persons, 2003)

		Non-recipients a)	Recipients b)	Total c)	Take-up rate *b/c*
On the basis of family income	Not eligible	6 133,5	26,5	6 160,0	
	Eligible	108,1	104,1	212,2	49%
	Total	6 241,6	130,6	6 372,2	
On the basis of household income	Not eligible	6 150,9	38,2	6 189,2	
	Eligible	90,7	92,4	183,0	50%
	Total	6 241,6	130,6	6 372,2	

Notes: The table contains weighted figures.
Source: Own calculations based on the 2003 CSO HBS, with HBS weights.

We also used a multivariate model (Table 12) to examine the characteristics affecting the probability of ineligible claiming. This helps to establish whether ineligible use stems from administrative errors or from abuse. In the next part of the analysis, we used the criterion set out in law (HUF 17,440/month).

Illegitimate claiming may arise for two fundamental reasons: (1) if the individual in effect exceeds the legislative personal or family income ceiling but reports less when claiming, (2) the local governments' practice of awarding benefits is not strictly in line with the law, i.e., if different practices are in place in different regions.

We have no direct data about the concealment of income; we tried to capture that factor in two ways. On the one hand, we checked how much the observed household income of the recipient exceeded the legislative ceiling, and on the other hand, by establishing the income of the household from odd jobs (per person). When submitting income statements for purposes of claiming the benefit, the applicant has a financial interest in concealing income, while there is no such motivation in case of the household survey, i.e., the income data in the HBS may be more accurate than the information collected by local governments. Thus we can assume that if the observed excess income increases the probability of ineligible use, this indicates that income has been concealed.

We approached the different benefit award practices of local governments by taking into account types of settlements and regions. In the course of the analysis, we eliminated the effects on benefit award of age, sex, school qualification and the absence of an active person in the household concerned. In contrast to the model used in the previous chapter, we analysed men and women together because the size of the sample did not allow for their separate examination. The model is described in detail in Annex F2.

Table 12: Probability of ineligible claiming

	On the basis of household income		On the basis of family income	
	Average partial effect	p-value	Average partial effect	p-value
Income per person above the legal limit (monthly, thousand HUF)	**0,041**	**0,000**	**0,050**	**0,000**
Income per person from irregular work (monthly, thousand HUF)*	**0,011**	**0,001**	**0,008**	**0,008**
Any active person in household	0,013	0,446	0,030	0,160
Age	0,001	0,393	**0,006**	**0,002**
Elementary school qualification	0,002	0,612	0,000	0,851
Technical school, skilled workers	**0,0004**	**0,003**	0,000	0,942
Secondary school	-0,006	0,579	0,000	0,798
Vocational secondary school	0,006	0,646	0,000	0,465
Southern Great Plain	0,046	0,391	0,022	0,751
Southern Transdanubia	0,014	0,507	0,011	0,567
Northern Great Plain	0,196	0,110	0,199	0,290
Northern Hungary	0,005	0,564	0,000	0,913
Central Transdanubia	0,160	0,468	0,003	0,860
City with county rank	**0,200**	**0,021**	0,063	0,178
Village	0,023	0,299	**0,059**	**0,000**
Sample size		237		237
Pseudo-R^2		0,8298		0,8751

* On the level of the household, we did not take into account the income of the recipient from odd jobs.

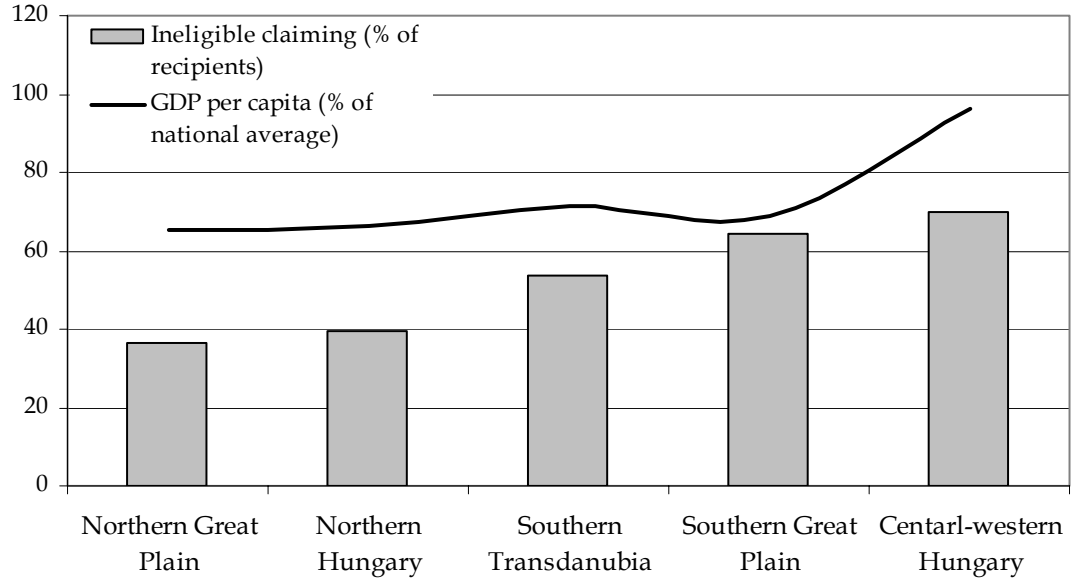
Notes: Probit regression with robust standard errors. The dependent variable was ineligible status. Variables significant at the 10% level are indicated in bold letters. The benchmark was persons without primary school qualification for school qualification (there were no persons with higher education qualification), Central and Western Hungary for regions, and small towns for type of settlement (in case of Budapest, all (3) persons collected the benefit ineligibly, therefore we left these 3 observations out of the regression).

Source: Own calculations based on the 2003 CSO HBS.

The results support the assumption that the concealment of income is one of the main reasons for illegitimate claiming. The probability of illegitimate claiming is increased by the per capita odd-job income by 1%, and by a thousand HUF departure from the family income ceiling by 4%. The results are also supported by the fact that if we look at illegitimate recipients by family income, the results concerning odd-job income remain valid.

Furthermore, we found that there are no substantive regional differences in ineligible claiming, i.e., the differences between regional averages (Figure 5) are explained by the composition effects. In terms of settlement size, ineligible claiming is more common in cities with county rank and in villages than in small towns – so far, we have found no explanation for this phenomenon.

Figure 5: Regional differences in ineligible claiming and per capita GDP, 2003



Notes: For the per capita GDP of Central-Western Hungary, the weighted figures of Central Transdanubia, Western Hungary and Central Hungary (excluding Budapest) are disclosed. The aggregation is necessitated by the small number of elements in the sample.

Source: Own calculations based on the 2003 CSO figures.

5. **The effect of the regular social assistance on labour supply**

Most of the empirical studies summarised in Chapter 3 indicated that social benefits not linked to the condition of employment reduce the willingness to work and employment

among recipients. In theory, the effects of the regular social assistance on labour supply should be similar to those of the unemployment benefit (see page 19). There is also a budget constraint effect that acts as an employment *disincentive;* furthermore, the RSA increases the level of reservation wage, but as the amount of this benefit is lower than the UI, these effects must also be smaller. On the other hand, its effects acting as incentives for employment are negligible: eligibility is not linked to employment, and, because of its small amount, it may only slightly increase the search cost. Therefore we expect the effect of the regular social assistance on labour supply and, indirectly, on employment, to be negative.

Even though from the aspect of employment and social policy the incentive/disincentive effects of benefits on willingness to work are important, we have no information in this respect. What our database allowed us to observe is the mode of job search and taking up employment. Considering that legislation formally prescribes to recipients the mode of job search, we could draw no definitive conclusions from that factor. Consequently, in this paper we concentrate on the relationship between recipient status and taking up work (employment), recognising the fact that becoming employed depends not only on the labour supply of the individual but also on the behaviour and demand of employers, and that this supply and demand effect is not separated in the analysis below.

5.1. Data

Consequently, we examine whether the fact that an unemployed person receives regular social assistance has any effect on the probability of his subsequent employment. For this, we needed a database recoding the labour market position and benefit recipient status in several points in time, because there is a time lag between recipient status and becoming employed (no one can be employed and recipient at the same time). Of the databases available for this purpose, only the Labour Force Survey (LFS) of the CSO was suitable; we combined the 2001-2004 data by quarter, so that we can follow changes in the recipient and labour market status of the individual. The quality of the social benefit data is questionable in that the LFS is not a survey directed specifically at income and benefits; therefore benefit-related questions are not

sufficiently detailed. However, considering that we have no reason to assume that there are systematic errors in the responses to unemployed and social benefit related questions, the database is suitable for the aforementioned analysis.

As the first step, we combined the data of the 16 quarters between 2001 and 2004 into a panel. Most individuals would spend less than six quarters, theoretically possible, in the LFS sample. As to the causes[29], we assume that this is not related to recipient or labour market status.

The examination of the effects of regular social assistance on the probability of employment makes sense only in case of those who have potential for, and are able to, take up employment: i.e., in the group of active-age persons with capacity to work but having no employment[30]. Accordingly, we narrowed down, in accordance with the definitions generally used in literature, the panel to the 18-62-year-old individuals who did not have even one hour of paid employment in the week directly preceding the interview[31].

The narrow sample included in the panel contains 15,844 individuals. The lower quartile of the time spent in the sample is 3, its median is 4, its top quartile is 6 quarters (Table 13).

Table 13: Time spent by individuals in the sample

Number of quarters in the sample	Number of individuals	Relative frequency	Cumulated frequency
2	3 397	21,4%	21,4%
3	2 937	18,5%	40,0%
4	2 730	17,2%	57,2%
5	2 343	14,8%	72,0%
6	4 437	28,0%	100,0%
Total:	15 844	100,00%	-

Source: Own calculations based on the 2001-2004 Labour Force Survey.

[29] In theory, the labour market survey monitors a person for one and a half years, or 6 quarters. One can be removed from the sample due to relocation, refusal to respond or change of sample (e.g., between 2002 and 2003). In our case, the number of observations in the sample was also reduced by eliminating observations from before 2001 and after 2004.

[30] That is, we have eliminated persons not looking for employment due to an illness, disability, nursing of a family member or studies. The remaining group is not identical with the unemployed under the ILO definition, because we have not used the criteria of job search and willingness to work.

[31] Public work was not considered regular employment as long as regular social assistance was selected among social benefits.

5.2. Effects of the social benefit and public work on employment

Based on the result of previous studies, we expect benefit recipient status to reduce, and public work – in line with the intention of legislators – to increase the probability of subsequent employment, thereby "helping long-term unemployed to reintegrate into the world of labour". Table 14 indicates a negative correlation between regular social assistance and employment, which coincides with our expectations. It indicates that on average 18.7% of the unemployed find work in the subsequent quarter, while the same ratio is only 9.5% among benefit recipients.

Table 14: Ratio of benefit recipients finding employment in the subsequent quarter

		Have he/she received regular social benefit?		
		no	yes	no
Will he/she be employed in the next quarter?	no	79,54%	90,48%	81,34%
	yes	**20,46%**	**9,52%**	**18,66%**
	total	100,0%	100,0%	100,0%

Source: Own calculations based on the 2001-2004 Labour Force Survey.

On the other hand, the relationship between public work and employment did not develop as we had expected. If the assumption that public work, as an intermediate step, offered some kind of help for returning to employment per se was correct, we should find that one is more likely to find employment if he had been in public work previously. However, our data seem to contradict that assumption: in the group of persons who had done public work, only 10.7% were in employment a quarter later, while the ratio among persons who had not been in public work is 18.84% (Table 15).

Table 15: Ratio of persons in public work finding employment in the subsequent quarter

		Have he/she done public work?		
		no	yes	no
Will he/she be employed in the next quarter?	no	81,16%	89,27%	81,34%
	yes	**18,84%**	**10,73%**	**18,66%**
	total	100,0%	100,0%	100,0%

Source: Own calculations based on the 2001-2004 Labour Force Survey.

We should not draw far-reaching conclusions from the differences in raw ratios; they may stem from the special composition of benefit recipients and public workers. In order to eliminate this composition effect, and to find out how much the differences in the probability of employment are attributable to recipient status and public work, we need a multivariate analysis. We examined, using that method, the entire scope of persons not in employment, and the group of persons who had just exhausted their eligibility to the insured unemployment benefit (UI).

For both groups, the regular social assistance had a strong negative impact on the probability of employment. In the wider circle, it reduced the probability of employment within the next quarter by some 20% for both women and men. This effect was even more marked among persons who had exhausted their eligibility to the UI: 75% of the recipient men, and 85% of the women were less likely to take up employment than their non-recipient peers. Accordingly, they remained unemployed longer: on average, regular social assistance recipients spent approx. 2 years (7 quarters) more as unemployed than non-recipients.

Public work also had a negative effect on employment: as compared to all the unemployed, it reduced the probability of taking up employment in the next quarter to 50% for men, and to 70% for women. However, we must take these results with a pinch of salt. According to those who are familiar with the benefit award practices of local governments, most of this strong correlation arises from the composition of persons in public work, and the LFS has insufficient information to filter out that effect. That is because local governments tent to employ mostly those in public work programmes who in their view have no chance to enter the primary labour market.

Our results indicate that neither the criteria of regular social assistance requiring activity nor the institution of public work achieve the intended employment effects. In the remaining part of the chapter, we describe the estimates leading to the above conclusions, and we also identify factors that, in addition to social benefit and public work, had an effect on the probability of employment.

5.3. Probability of employment of unemployed persons

In this section, we examined the probability of taking up employment (exit) among the observations in the combined panel from the first quarter of 2001 to the fourth quarter of 2004. If an individual in the sample took up employment as an unemployed, then became unemployed again, he would be included in the estimate more than once. In addition to variables describing employment, recipient status and public work, our regression model looked at other characteristics that may also have an impact on the labour market value of the individual and thus on the probability of finding a job. One example is school qualification. As school qualification has a strong correlation to productivity, employers prefer to hire applicants with higher qualifications. On the other hand, there is more incentive on the supply side to find a job as well, because with higher qualifications and productivity, higher wages are to be expected, thus employment has a greater gain over social assistance.

The effect of age on the probability of employment is less obvious. Practical experience accumulates with age[32], whereas the human capital (special skills and experience) become obsolete fast, and young people are easier to train or retrain. The effect of age is complex on the supply side also. On the one hand, at a very young age there is less incentive for employment and earning a salary because there are often other financial resources available (support from the family or parents) and because, at that age, studies as a labour market investment are more profitable than later. On the other hand, as the individual gets close to the end of his labour market career, his incentive for more/better work lessens because he will be able to reap the financial benefits for only a short time (Galasi and Nagy, 2003). From these ambivalent demand and supply effects we cannot clearly establish the potential impact of age. The age composition of the unemployed, however, appears to indicate that both the old and school leavers find it harder to find a job than their middle-aged counterparts.

Some factors have a different impact on the employment behaviour for women and men. They include variables relating to the family (marital status, number of children, presence of minor children, etc.). For instance, a large number or young age of children represents strong motivation for the male member of the family only, while for the women it tends to be a disincentive to work. Therefore it is reasonable to estimate two separate models for the two sexes.

In our model, we also looked at the impacts on employment of the reservation wage, the various benefits to the unemployed as well as the length of unemployment, the labour market status of family members, regions, and variables describing previous labour market status. The table below shows the estimated effects on the two sexes separately (for the description of variables and the model specifications, see Annex F3).

[32] This is reflected in the wage advantage of older employees over young persons with identical qualifications (Kertesi and Köllõ, 1997).

Table 16: Average effects of the various factors on the probability of employment of unemployed women and men

Exit	**Males**		**Females**	
	APE	p-value	APE	p-value
RSA	**-0,0679**	**0,000**	**-0,0530**	**0,000**
Publlic work	**-0,0932**	**0,000**	**-0,0631**	**0,000**
Active labour market programme	**-0,0615**	**0,006**	**-0,0615**	**0,000**
Pre-retirement aid	**-0,0865**	**0,000**	**-0,0957**	**0,005**
Receives unemployment benefit	**-0,0326**	**0,000**	**-0,0231**	**0,003**
Reservation wage (thousand HUF)	**-0,0012**	**0,000**	**0,0000**	**0,000**
1. quarter	**0,0517**	**0,000**	0,0056	0,464
3. quarter	**0,0691**	**0,000**	**0,1324**	**0,000**
Number of months since registrated unemployed	**-0,0054**	**0,000**	**-0,0058**	**0,000**
Number of months since registration (squared term)	**0,00004**	**0,000**	**0,00004**	**0,000**
Working spouse	**0,0777**	**0,000**	-0,0021	0,678
Nobody works in household	**-0,0535**	**0,000**	**-0,0467**	**0,000**
One person works in household	**-0,0229**	**0,002**	**-0,0145**	**0,038**
25-34 years old	**0,0332**	**0,000**	**0,0435**	**0,000**
35-54 years old	**0,0245**	**0,003**	**0,0816**	**0,000**
above 55 years old	**-0,0384**	**0,000**	**-0,0328**	**0,003**
Technical school/skilled worker	**0,0823**	**0,000**	**0,0673**	**0,000**
Secondary qualification	**0,1077**	**0,000**	**0,1053**	**0,000**
Higher education degree	**0,3147**	**0,000**	**0,3393**	**0,000**
Without child	**-0,0267**	**0,000**	**-0,0235**	**0,000**
Family with 3 or more children	**-0,0381**	**0,000**	**-0,0706**	**0,000**
Small child	**0,0358**	**0,000**	**-0,0846**	**0,000**
Unemployment rate of the county	**-0,5837**	**0,004**	0,2597	0,228
Central Hungary	**-0,0578**	**0,000**	**-0,0383**	**0,000**
Southern Transdanubia	0,0114	0,304	-0,0172	0,107
Northern Great Plain	0,0108	0,338	-0,0067	0,489
Southern Great Plain	0,0157	0,125	-0,0121	0,178
Northern Hungary	-0,0045	0,698	**-0,0175**	**0,095**
Previously studied	**-0,0295**	**0,012**	-0,0226	0,105
Previously soldier	0,0136	0,476	-0,0809	0,278
Previously home-maker	**-0,0694**	**0,012**	-0,0241	0,101
Previously received child care allowance/child care fee	**-0,1191**	**0,000**	**0,0394**	**0,004**
Previously other	**-0,0239**	**0,039**	0,0101	0,543
2001	**-0,0535**	**0,000**	-0,0136	0,195
2002	**-0,0403**	**0,000**	-0,0023	0,822
Sample size		22 153		22 082
Pseudo-R^2		0,1015		0,1404

Notes: Probit regression with robust standard errors. The dependent variable was taking up employment (exit). Variables significant at the 10% level are indicated in bold letters. The control group was the 18-24-year-old age group for age, persons with no more than elementary education for school qualification, employed persons for previous labour market status, and Central Transdanubia for regions.
Source: Own calculations based on the 2001-2004 Labour Force Survey.

The table shows that both benefit recipients and persons in public work are less likely to find employment in a quarter. The receiving of regular social assistance reduces the probability of finding employment in the next quarter on average by 5.3 percentage points for women and 6.8 percentage points for men; in the case of public work, the corresponding figures are 6.3 for women and 9.3 for men. Considering that the probability of finding work is 18.7% on average for the entire group, the above figures indicate a strong impact (an over 30-50% [33] reduction of probability).

It is not certain, however, that those figures really show the disincentive effect of the assistance and of public work. In theory, the higher the benefit, the greater the expected disincentive effect. In contrast, in our model the UI, which is higher than the regular social assistance, has a more modest effect that the RSA, which may indicate that the coefficient of the RSA variable reflects not only the disincentive effect of the benefit but also the effects of other variables not observed or not incorporated in the model, which set apart the regular social assistance recipient group from other unemployed. These may be "subjective" factors such as attitude, internal motivation, resourcefulness, self-confidence, perseverance, social network, which we have no information about but which affect the probability of employment. Therefore the actual disincentive effect of the regular social assistance and public work may be less than the value we measured.

We measured age in cohorts, the effect of which was in line with expectations: unemployed persons above 55 years old find it the hardest to become employed; compared to them, persons below 24 were 3.3-3.8 percentage points, the middle cohorts 6.2-11.4

[33] Regular social assistance reduces the probability of employment to 18.34-5.3= 13.04% for women, and to 18.98-6.8=12.18% for men, which is a 30-35% decrease. Public work changes the probability of employment to 18.34-6.3= 1.04% for women and 18.98-9.3=9.85% for men, corresponding to a decline of 35-50%.

percentage points[34] more likely to be working a quarter later. For both sexes, the probability of finding employment increases significantly as qualifications become higher and decreases with the time since last in employment. As expected, the presence of small children in the family affects the behaviour of men and women differently: the presence of a child below years of age made men 3.6 percentage points more likely and women 8.5 percentage points less likely to take up employment. The estimated effects are not very substantial, but taking into account the average probability of employment (18.7%), they are not insignificant either. For instance, the fact that no one works in the family reduces the average probability of finding a job by 5.4 percentage points, i.e., 0.054/0.186=27%.

5.*4. The probability of reemployment and the duration of unemployment of persons who exhausted their eligibility to UI*

It is reasonable to ask whether we have introduced a distortion in the above estimate by treating the unemployed in a uniform manner, irrespective of their work history and the duration of their past unemployment. Therefore we also looked at the effects of the benefit and public work using another, so-called duration model. In this model, the probabilistic hazard of finding employment is expressed as a function of the observed personal characteristics of the unemployed persons and the time spent as an unemployed *in the observation*. We analysed only those unemployed who exhausted their eligibility for UI during the observation period. That is because they can be assumed to form a relatively homogeneous group in terms of work history and links to the labour market. Thus we restricted our sample to a total of 922 persons; their breakdown by age and the number of quarters spent in observation *after expiry of eligibility for the UI* are shown in Table 17.

[34] Men between 25-34 years of age were 3.3% more likely to become employed, i.e., they were 3.3+3.8=7.1% more likely than their over-55 counterparts. The same rate for 35-54-year-old men was 6.2, women in the 25-34 year age group are 7.5, women between 35-54 years of age, 11.4% more likely to find work than their peers above 55.

Table 17: Persons exhausting their eligibility for UI in the 3rd quarter and the number of quarters they spent in the observation

Number of quarters in the sample	Male	Female	Total
2	190	153	343
3	168	105	273
4	135	69	204
5	55	47	102
Total	**548**	**374**	**922**

As compared to the total group of unemployed, the probability of finding employment in the next quarter is much smaller among this group: instead of the pervious 18.98 and 18.34%, now it is 7.88 and 6.46% (Table 18).

Table 18: Ratio of unemployed exhausting eligibility for UI who find work, by sex

		Males	Females	Total
Will he/she be employed in the next quarter?	No	92,12%	93,54%	92,69%
	Yes	**7,88%**	**6,46%**	**7,31%**
	total	100%	100%	100%

As, like in the previous model, we also examined the probability of taking up employment, we considered more or less the same factors, except for the variables indicating the durations. However, of these factors, we left in the model only those the effects of which turned out to be significant or proved significant together with other variables (based on an F-test). We estimated the effects of the variables using several[35] duration models, which yielded very similar results.

[35] multi-stage and continuous time, parametric and non-parametric models. Of these, we disclose the Jenkins estimates, which is an estimated using a multi-stage model and logit function.

Table 19: Average effect of various factors on the hazard of taking up employment

	Males		Females	
Becoming employed	**APE**	**p-value**	**APE**	**p-value**
RSA	**-0,0596**	**0,005**	**-0,0557**	**0,077**
Public work	-	-	-	-
Quarter 1	0,0014	0,953	**-0,0506**	**0,080**
Quarter 2	0,0072	0,730	0,0153	0,539
Quarter 3	**-0,0299**	**0,095**	-0,0174	0,459
18-24 years old	**0,0990**	**0,088**	**0,0827**	**0,000**
25-34 years old	0,0676	0,171	**0,0647**	**0,000**
35-54 years old	**0,0790**	**0,085**	**0,0406**	**0,000**
Elementary school	0,0152	0,666	0,0123	0,784
Technical school/skilled worker	0,0321	0,433	0,0077	0,878
Secondary school	-	-	-0,0159	0,709
Vocational secondary school	0,0422	0,368	0,0425	0,494
Working spouse	0,0236	0,209	-0,0027	0,891
Household with child(ren)	0,0109	0,560	-0,0011	0,967
Unemployment rate of the region	**-0,2678**	**0,017**	-0,2318	0,159
Number of months since registrated unemployed	**-0,0111**	**0,000**	**-0,0104**	**0,002**
Number of months since registrated unemployed (squared term)	**0,0001**	**0,000**	**0,0001**	**0,000**
t2	**-0,1976**	**0,010**	**-0,5727**	**0,000**
t3	**-0,1597**	**0,003**	**-0,3593**	**0,000**
t4	**-0,1266**	**0,000**	-	-
t5	**-0,1190**	**0,002**	**-0,3512**	**0,000**
Year 1	**0,0981**	**0,064**	**0,1438**	**0,066**
Year 2	**0,0633**	**0,068**	**0,0957**	**0,066**
Year 3	-0,0048	0,924	0,0564	0,461
Number of observations		1 023		607
Prob> chi2:		0,000		0,000

Notes: The estimates were made using a logit function, where the dependent variable was the probability of taking up employment. Variables significant at the 10% level are indicated in bold letters. The control group was the 55-62-year-old age group for age, and persons with no more than elementary education for school qualification.
Source: Own calculations based on the 2001-2004 Labour Force Survey.

In this group, the effect of public work could not be estimated statistically because, of the small number of unemployed in public work (51 out of 1053 observed men, 31 out of 607 women), no one

took up employment. In contrast, the effect of the regular social assistance is significant and negative: benefit recipient men are 6.9 percentage points, women 5.6 percentage points less likely to take up employment than their non-recipient counterparts, taking into consideration also the time since the exhaustion of eligibility to the UI. The size of the effect must be viewed in light of the fact that the likelihood of taking up employment in the quarter after the observation is on average 7.9% for men and 6.5% for women. That is, men recipients of regular social assistance have one quarter[36], women 85% less chance to become employed than their non-recipient peers. Though to a lesser extent, but it is still a valid concern that recipients may represent a special group within the examined persons, which, as a result, may also reflect the effects of non-observed factors other than the disincentive effect. That is because, even though in certain respects of their labour market links and work history, we have made the observed group homogeneous, this has not made the recipients any more similar to the non-recipients in terms of the probability of taking up employment.

As compared to the model described in Table 16, there are fewer variables with significant impacts in the duration model. One reason may be the much smaller number of elements, but it may also be attributable to the greater homogeneity of the group. In contrast to the qualifications and the characteristics of the household, age does have an effect on the probability of employment: younger males were 7-10 percentage points more likely to find employment, and women 4-8 percentage points more likely, than the age cohort above 55. The past duration of unemployment and, for males, the unemployment rate of the region had a negative effect on the probability of employment.

Using the probabilistic hazards, the duration of staying unemployed after entering the scope of observation can be calculated; adding that to the time of unemployment before the observation period, we can also estimate the total duration of unemployment after the loss of the latest job (Table 20). Based on those estimates we can conclude that among the unemployed persons who have just exhausted their eligibility to UI, those who receive RSA remain unemployed 7 quarters (almost 2 years) longer than non-recipients.

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[36] Thus, benefit recipient men have a chance of 7.9%-5.9%=2%, and women, 6.5%-5.5%-1%, to be employed a quarter later.

Table 20: Average duration of unemployment in quarters

		Mean	St. error	Number of observations
Does he/she receive RSA?	no	9,77	5,96	567
	yes	16,16	7,24	355
	Total	12,23	7,19	922

Source: Own calculations based on the 2001-2004 Labour Force Survey.

6. Summary and recommendations

The regular social assistance (RSA) is the only assistance of substantial magnitude available to persons not eligible for insured unemployment benefit. It is paid to almost 150 thousand persons per year, which makes it is the most substantial means-tested cash benefit in Hungary at this time.

Means-tested benefits are better targeted than universal ones, but they are not necessarily more effective, because the evaluation of claims may be costly, they don't necessarily reach all persons in need and may also reduce willingness to work. So far, no detailed empirical studies have been made of the effectiveness and efficiency of the Hungarian benefit systems: this paper is the first attempt to make up for that deficiency.

We measured the effectiveness of the RSA (whether it reaches the target group) in two dimensions: the targeting of regulation and of take-up. Regulations impose a strict income ceiling, thus in 2003 two thirds of households living below the poverty line were not eligible. In 2006, the personal income ceiling was abolished, and eligibility was only linked to family income, and the income ceiling increased., The new system, however, calculates family income for consumption units rather than persons, which is higher in larger households than the per capita amount. Aggregately, these opposing effects resulted in the broadening of the range of eligibility: the ratio of eligibility increased by 1 percentage point among poor households.

Based on the year 2003 HBS, we estimated the take-up rate (the ratio of persons collecting the benefit within the eligible target group) to be 55-57%, which is not worse than in other countries. Being well informed and having a strong link to the labour market are the factors that have the greatest bearing on the likelihood of

taking up the benefit: never having had a job reduced the probability of obtaining the benefit by almost 35%. The ratio of persons with higher school qualifications is significantly lower among aid recipients, which is partly attributable to the stigmatizing effect of the benefit.

We looked at two aspects of effectiveness. On the one hand, we examined the overpayment within the system, i.e., the ratio of ineligible claiming. Even though 83% of recipients are in the poorer third of households, some 30% received the benefit ineligibly, which is at least partly made possible by the concealment of income. On the other hand, we looked at the indirect costs of the assistance in the sense whether it may reduce willingness to work. The data of the CSO Labour Force Survey for the 2001-2004 period indicated that both unemployed recipients of regular social assistance and persons on public work are less likely to enter non-subsidised employment than other unemployed or inactive persons. Benefit recipients are 30-35% less likely to enter into employment, and they remain unemployed two years longer on average, than their non-recipient counterparts. This, however, may partly be attributable to the non-observed characteristics of recipients.

Accordingly, both efficiency and effectiveness could be improved by modifying the regulation of the RSA.

In respect of the targeting of the needy, we recommend the re-consideration of the merger, in 2000, of the RSA with the income supplement to the unemployed. That is because the abolished former benefit used to be a purely social benefit, and its role has not been re-delegated to any kind of assistance. In 2003, most of the poor households ineligible for the RSA would have been excluded on account of the employment of the household members.

Underpayment could be improved even by a slight increase of the eligibility ceiling: over 40% of the ineligible poor households would have their claim denied because the per capita household income exceeds the eligibility ceiling (though it is below the poverty line).

According to our estimates, over 40% of eligible persons do not receive the benefit, partly because of the insufficient information level of eligible persons, partly due to the stigmatising effect of the benefit. Thus, in order to improve the effectiveness of the benefit, it would be necessary to improve the dissemination of information and to study and address the attitudes relating to the benefit.

The ratio of ineligible claimants is not significant, even though the system does contain some overpayment, which could be reduced through improving controls and introducing incentives to local governments in this respect.

The rules of eligibility also contain some elements, however, that result in overpayment or inefficient targeting. In 2006, the former dual income criterion was abolished, and the RSA was transformed into a family benefit, so that now local governments, when evaluating eligibility, only look at the family income per consumption unit, and the amount of the benefit supplements that amount to 90% of the minimum pension. However, poverty and need would be better reflected, and the targeting of the benefit improved, if household income, rather than the family income specified in the Social Act, was to be considered as the basis of eligibility. Need is determined not by the closeness of family relations but the distribution of expenditures within the household, therefore it would be more adequate to consider the income of all household members when determining need. This would take into account the redistribution of incomes within the household, and thus provides a better measure of actual need.

Targeting was improved by the introduction of the consumption unit instead of the per capita income because the latter gave an unjustified advantage to larger households. In contrast, the legislator, when defining the consumption unit, made allowances to larger families, because children have been given considerably greater weighting than in international practice. Using the household income (instead of family income) and adjusting the consumer unit ratios together would reduce the average benefit amount by approximately 30%, which would free up resources for an increase in the income ceiling.

According to the intention of the legislator, the regular social assistance, taking on the role of the former income supplement, is meant to help the long-term unemployed, trying to 'keep them afloat and re-integrate them into the world of labour'. In contrast, our results indicate that in practice this benefit acts mainly as an income supplement to the long-term unemployed, i.e., it fails to attain its employment objectives. Therefore, we would recommend a reconsideration of that the introduction of the employment test for the RSA. However, in order to encourage employment, it would be also necessary to look into the operational problems of public work

programmes, and to assess what other pro-employment measures, successfully used in other countries, could be introduced.

References

Ashenfelter, O. (1983): Determining participation in income-tested social programmes, Journal of the American Statistical Association, 78, pp. 517-525.

Barr, N. (1998): The economics of the welfare state, Oxford University Press, Oxford

Benedek, D. – Lelkes, O. – Szabó, M – Scharle. Á. (2005): A magyar államháztartási bevételek és kiadások szerkezete, 1991-2004 [The structure of general government expenditure and revenues in Hungary, 1991-2002.], Working Papers 9. Ministry of Finance.

Benedek, D. – Firle, R. – Scharle. Á. (2006): A jóléti újraelosztás mértéke és hatékonysága [Degree and Efficiency of Redistribution], Working Papers 17. Ministry of Finance.

Bertrand, M. – Luttmer, E. – Mullainathan, S. (2000): Network effects and welfare cultures, Quarterly Journal of Economics, August 2000, pp. 1019-1056.

Besley, T. – Kanbur, R. (1990): The principals of targeting, Policy Research and External Affairs Working Paper Series No. 385, The World Bank

Blank, R. (1999): What causes public assistance caseloads to grow, Journal of Human Resources, 36 (1), pp. 85-118.

Blank, R. – Card, D. (1991): Recent trends in insured and uninsured unemployment: is there an explanation?, Quarterly Journal of Economics 106, November 1991, pp. 1157-1190.

Blank, R. – Ruggles, P. (1996): When do women use AFDC & Food stamps? The dynamics of eligibility vs. participation, Journal of Human Resources, 31(1), pp. 57-89.

Bódis, L. – Galasi, P. – Micklewright, J. – Nagy, Gy. (2005): Munkanélküli-ellátás és hatásvizsgálatai Magyarországon [Unemployment benefits and their Impact Assessment in Hungary], MTA-KTI, Budapest

Brien, M. – Swann, C. (1999): Prenatal WIC participation and infant health, University of Virginia Department. of Economics, unpublished manuscript

Coady, D. – Parker, S. (2004): Combining means-testing and self-selection targeting: an analysis of household and program agent behavior, Working Paper No. 33, Department of Economics, CIDE

Coady, D. – Skoufias E. (1999): On the distributional gains of targeted transfer programs, Working Papers No. 333, International Food Policy Research Institute, Washington

Coe, R. (1985): Nonparticipation in the SSI program by eligible elderly, Southern Economic Journal, 51(3), pp. 891-897.

Craig, P. (1991): Costs and benefits: a review of research on take up of income-related benefits, Journal of Social Policy 20(4), pp. 537-565.

Currie, J (2000): Do children of immigrants make differential use of public health insurance?,Issues in the Economics of Immigration, George Borjas (ed.), Chicago: University of Chicago Press for NBER.

Currie, J. (2003): The take-up of social benefits, NBER Working Papers, No. 7685.

Currie, J. – Grogger, J. (2002): Medicaid expansions and welfare contractions: offsetting effects on maternal behavior and infant health, Journal of Health Economics, 21, pp. 313-335.

Daponte, O.B. – Sanders, S. – Taylor, L. (1999): Why do low-income households not use Food Stamps? Journal of Human Resources, 34(3), pp. 612-628.

Department of Work and Pensions (2001): Income related benefits estimates of take-up: 1999-2000, London.

Department of Work and Pensions (2002): Income related benefits estimates of take-up: 2000-2001, London.

Dorsett R.- Heady C. (1991): The take-up of means-tested benefits by working families with children", Fiscal Studies, vol. 12(4), pp. 22-32.

Ellwood, D. – Kenney, G. (1995): Medicaid and pregnant women: who is being enrolled and when? Health Care Financing Review, 17(2), pp. 7-28.

Ellwood, D (2000): Anti-poverty policy for families in the next century: from welfare to work – and worries. Journal of Economic Perspective (14), pp. 187-198.

Esping-Andersen, G. (1990) The three worlds of welfare capitalism. Cambridge, Polity.

Fazekas, K. (2002): A tartós munkanélküliek rendszeres szociális segélyezése és önkormányzati közfoglalkoztatása Magyarországon [Regular Social Assistance and Local Governments Public Work for the Long-term Unemployed in Hungary], 2000-2001, BWP 2002/6

Fortin, B. – Lacroix, G. – Drolet, S (2004): Welfare benefits and the duration of welfare spells: evidence from a natural experiment in Canada, Journal of Public Economics, 88, (7-8), pp. 1495-1520.

Förster, M (2005): What are equivalence scales? OECD, Párizs http://www.oecd.org/dataoecd/61/52/35411111.pdf

Friedman, M. (1962): Capitalism and Freedom, University of Chicago Press, Chicago

Galasi, P. – Nagy, Gy. (2003): A munkanélküli ellátás változásainak hatása a munkanélküliek segélyezésére és elhelyezkedésére [Duration of benefit eligibility and chances of re-employment], Közgazdasági Szemle, L. évf. pp. 608-634.

Gelbach, J. B – Pritchett, L. H. (1997): More for the poor is less for the poor: the politics of targeting, World Bank Policy Research Working Paper No.1523.

Gustafsson, B. (2002): Assessing non-use of social assistance, European Journal of Social Work (5) pp. 149-158.

Halpern, J. – Hausman, J. A.(1986): Choice under uncertainty: a model of applications for the Social Security Disability Insurance program, Journal of Public Economics, vol. 31.

Hernanz, V. – Malherbet, F. –Pellizzari, M (2004): Take up of welfare benefits in OECD countries: a review of the evidence, OECD Working Papers, No. 17.

Hoynes, H. W. (1996): Work, welfare, and family structure: what have we learned?, NBER Working Papers, No. 5644.

Kayser, H. – Frick, J. R. (2001): Take it or leave it: (non-) take-up behavior of social assistance in Germany, Deutsches Institut für Wirtschaftsforschung, Discussion paper, No. 210

Kertesi G. – Köllő, J. (1997): Reálbérek és kereseti egyenlőtlenségek [Real Wages and Wage Inequalities] Budapest Working Papers, 1986–1996. Közgazdasági Szemle (7–8), pp. 612–634.

Kőnig, É. (2004): A segélyezés Bermuda-háromszöge, Esély, 2004 (1), pp. 49-64.

KSH (1997): A Háztartási Költségvetési Felvétel módszertana [Methodology of the Household Budget Survey], Statisztikai Módszertani Füzetek 37., Központi Statisztikai Hivatal

KSH (2006): Létminimum [The minimum standards of living], 2005. Központi Statisztikai Hivatal

Lemieux, T. – Milligan, K. (2004): Incentive effects of social assistance: a regression discontinuity approach, NBER Working Papers No. 10541.

Lemiuex, T. – MacLeod, B. (1998): Supply side hysterisis: the case of the Canadian unemployment insurance system, NBER Working Papers 6732

Liebman, J. (2002): Who are the ineligible EITC recipients? National Tax Journal, v. LIII No. 4, Part 2, pp. 1164-1181.

Meyer, B. – Rosenbaum, D.(2001): Welfare, the Earned Income Tax Credit, and the labor supply of single mothers, The Quarterly Journal of Economics, August 2001, pp. 1063-1114.

Meyers, M. – Heintze, T. (1999): The performance of the child care subsidy system: target efficiency, coverage adequacy and equity, Social Service Review, 73(1), pp. 34-64.

Micklewright, J. – Nagy, Gy. (1998): Segélyezés, életszínvonal és ösztönzés a munkanélküli-járadék kimerítésa után [Benefit receipt, the replacement rate and incentives after exhausting unemployment insurance], Közgazdasági Szemle, XLV. évf., pp. 401-423.

Moffitt, R. A. (1983): An economic model of welfare stigma, American Economic Review, 73, No.5, pp. 1023-1035.

Moffitt, R. A. (1992): Incentive effects of the U.S. welfare system: A Review, Journal of Economic Literature, 42 (3), pp. 1-61.

Moffitt, R. A. (2002): Welfare programs and labour supply, NBER Working Papers No. 9168, http://www.nber.org/papers/w9168

Moffitt, R. A (2003): Means-tested welfare programs in the US, (editor), University of Chicago Press and NBER

Mózer, R. – Darvas, Á. (2004): Kit támogassunk [Who shuld be favoured?], Esély, 2004 (6)

Németh, Gy. (2004): A rászorultság elve, Valóság, XLVII. évf. pp. 1-30.

Riphahn, R. (1998): Immigrant participation in social assistance programs: evidence from German guestworkers, IZA Working Paper, No 15.

Sapir, A. (2005): Globalization and the reform of European social models, Bruegel Policy Brief, Issue 2005/1

Semjén, A. (1996): A pénzbeli jóléti támogatások ösztönzési hatásai [The incentive effects of in-cash social transfers], Közgazdasági Szemle, XLIII. évf., pp. 841-862.

Terracol, A. (2002): Analyzing the take-up of means-tested benefits in France, NBER Working Papers, No. 7255.

Terrel, K. – Sorm, V. (1998): Labor market policies and unemployment in the Czech Republic, Working Papers No. 216., W. Davidson Institute

Terrel, K. – Erbenova, M. – Sorm, V. (1998): Work incentive and other effects of. social assistance and unemployment benefit policy in the Czech Republic, Empirical Economics, vol. 23(1/2), pp. 87-120.

Tobin, J. (1965): On the economic status of the Negro, Daedalus 94(4): pp. 878–898.

Virjo, I. (1999): Underuse of social assistance – its extent and causes, Tammerfors University, Working Papers, No. 122

Appendix

F1. Income items used for determining eligibility

Personal incomes	**Personal**	**Family**
Gross income from full-time job		×
Lump-sum settlement		
Fee of life and retirement insurance paid by the employer		
Income from secondary employment		×
Entrepreneurial income		×
Corporate wage and divident		×
Income from intellectual work		×
Tip, gratuity		
Income from irregular work or single assignment		×
Income from moveables and real estate	×	×
Other income	×	×
Retirement pension	×	×
Pension supplement		×
Old age benefit		×
Invalidity annuity		×
Regular benefit		×
Irregular benefit	×	×
Child care fee, child care allowance, child raising support, maternity assistance		×
Scholarship		×
Sick pay		×
Regular social assistance for the unemployed		×
Unemployment benefit		×
Jobseeker's benefit		
Nursing allowance	×	×
Life-annuity received for compensation notes		×
Child care allowance recipients' remaining income supplement		
Wage and other income from abroad		×
Other household income		
Family allowance		×
Orphan's allowance		×
Child support		×
Child protection support		×
Maternity benefit		
Child(ren)'s income under the age of 16		
Received home maintenance support		×
Interest payment, dividend, affix		×
Money received form insurance company		×
Other income		×
Received life-annuity		×
Income from selling real estate		×
Received wealth from selling		×
Sold compensation notes		×
Money from own saving		
Social allowance, loans that need not to be repaid		
Agricultural income		

F2. Description of probit models used for examining targeting[37]

From 1993 the Central Statistical Office has returned to the yearly surveying of the Household Budget Survey. The sample contains 10 000 households' and 22-25 thousand individuals' consumption and demand habits and other characteristics.

Drivers of legitimate claiming

The regression results disclosed under the analysis of illegitimate claiming come from the following model: The regression analyses were run on the group of benefit recipients. The dependent variable was non-eligible recipient status. The explanatory variables and their average values for the recipient group and the entire sample:

Variable name	Average value	
	Eligible persons	Total
Logarithm of estimated amount of aid	9,60	7,38
Logarithm of the per capita family income (HUF) used to determine the eligibility criterion (see in Appendix F1.)	9,56	11,50
Unemployment rate of the county (%)	0,08	0,06
Schooling, elementary school (1: yes, 0: no)	0,52	0,44
Schooling, vocational school (1: yes, 0: no)	0,33	0,21
Schooling, highschool (1: yes, 0: no)	0,12	0,23
Schooling, college or university (1: yes, 0: no, reference)	0,03	0,13
Child in family, younger than 15 years(1: yes, 0: no)	0,57	0,45
Settlement type, Budapest (1: yes, 0: no)	0,04	0,16
Settlement type, cities of county rank (1: yes, 0: no)	0,09	0,20
Settlement type, other towns (1: yes, 0: no)	0,30	0,27
Settlement type, villages (1: yes, 0: no, reference)	0,57	0,37
Age, 18-24 years (1: yes, 0: no)	0,17	0,10
Age, 24-35 years (1: yes, 0: no)	0,25	0,15
Age, 35-54 years (1: yes, 0: no)	0,52	0,31
Age, above 55 years (1: yes, 0: no, reference)	0,05	0,22
Never worked before (1: yes, 0: no)	0,15	0,13
At most one active person in household (1: yes, 0: no)	0,79	0,73

Estimates are probit estimates based on heteroskedasticity robust standard errors.

Drivers of illegitimate claiming

Analyses of the illegitimate claiming is based on the following regression

[37] The probit model estimates how the various characteristics of the individual, having eliminated other effects, influence the probability of actually collecting the benefit if eligible.

results. Regressions were run on the eligible persons. The dependent variable was the non-eligible beneficiary status. The explanatory variables and their average values on the eligible and on the whole sample are as follows:

Variable name	Average value	
	Eligible persons	Total
Difference from the per capita household income limit (17740 HUF), per month, in thousand HUF	3,37	15,8
Per capita income from casual work (thousand HUF / month)	1,02	0,74
Logarithm of the income from casual work	3,98	0,65
Sex (1: male, 0: female)	0,57	0,47
Age (in years)	39,38	37,21
There is no active member of the household (1: yes, 0: no)	0,40	0,28
Schooling, not finished elementary school (1: yes, 0: no)	0,10	0,22
Schooling, elementary school (1: yes, 0: no)	0,43	0,21
Schooling, technical school (1: yes, 0: no)	0,32	0,21
Schooling, highschool (1: yes, 0: no)	0,05	0,08
Schooling, vocational schools (1: yes, 0: no)	0,09	0,15
Schooling, college or university (1: yes, 0: no)	0,00	0,13
Region: Southern Great Plain (1: yes, 0: no)	0,09	0,16
Region: Southern Transdanubia (1: yes, 0: no)	0,15	0,09
Region: Northern Great Plain (1: yes, 0: no)	0,29	0,15
Region: Northern Hungary (1: yes, 0: no)	0,37	0,15
Region Central Transdanubia (1: yes, 0: no)	0,03	0,10
Region: Central Hungary (1: yes, 0: no)	0,06	0,25
Region: Western Transdanubia (1: yes, 0: no)	0,02	0,10
Settlement type, Budapest (1: yes, 0: no)	0,01	0,16
Settlement type, cities of county rank (1: yes, 0: no)	0,10	0,20
Settlement type, other towns (1: yes, 0: no)	0,27	0,27
Settlement type, villages (1: yes, 0: no)	0,62	0,37

Estimates are probit estimates based on heteroskedasticity robust standard errors.

F3. Description of the models used for analysing the effect on labour supply:

For the examination of the labour market effects of the benefit, we used the quarterly figures of the Labour Force Survey of the Central Statistical Office between 2001-2004, connected into waves. We estimated the probit model on the active-age unemployed, and the duration model on unemployed persons exhausting their UI during the observation period. For both models, we had the following variables available:

Variable	Contents, definition	Average value	
		Amongst non workers	In duration model
Quitting	Binary variable (bv), it's value is 1, if person did not work in the given quarter but worked one quarter after.	0,1866	0,0731
RSA	bv: 1, if receives RSA	0,1647	0,3920
Social work	bv: 1, if does socal work	0,0223	0,0469
Active labour market programs (ALMP)	bv:1, if participates in ALMP	0,0124	0,0623
PRUA	bv: 1, if receives pre-retirement unemployment assistance	0,0060	0,0114
Jobseeker's aid	bv: 1, if reciesves jobseeker's aid	0,1288	0,0497
Reservation wage	The minimum wage at which the person is willing to work (in thousand HUF)	24,4616	29,561
Duration of unemployment	Number of months since last employed	6,8013	9,9819
Duration^2 of unemployment	The previous squared	250,2318	237,3384
Sex	bv, 0: male, 1: female,	0,4992	0,3982
Age, 18-24 years	bv: age, 18-24 years	0,1947	0,1211
Age, 24-35 years	bv: age, 24-35 years	0,2871	0,2909
Age, 35-54 years	bv: age, 35-54 years	0,4568	0,5297
Age over 55 years	bv: age over 55 years	0,0614	0,0583
Number of months since registration	Number of months since registration	6,5428	11,9514
Number of months since registration^2	The previous squared	233,4444	317,7411
Spuse works	bv: does the spouse work?	0,3455	0,3074
Noone works in the family	bv: noone works in the family	0,6822	0,6829
Only one person works in the family	bv: only one person works in the family	0,1944	0,1931
No child	bv: no child in the family	0,5753	0,6005
Big family	bv: 3 or more children in the family	0,0724	0,0657
Infant in family	bv: infant in the family younger than 5	0,2254	0,3268
UR of the county	Unemployment rate of the county	0,0635	0,0733
UR of the region	Unemployment rate of the region	0,0705	0,0907
Central Hungary	bv: 1, if lives in Central Hungary	0,1519	0,0491
Southern Transdanubia	bv: 1, if lives in Southern Transdanubia	0,1435	0,1749
Western Transdanubia	bv: 1, if lives in Western Transdanubia	0,0813	0,0669
Central Transdanubia	bv: 1, if lives in Central Transdanubia	0,1000	0,1068
Northern Great Plain	bv: 1, if lives in Northern Great Plain	0,2001	0,2463
Southern Great Plain.	bv: 1, if lives in Southern Great Plain	0,1328	0,1314
Northern Hungary	bv: 1, if lives in Northern Hungary	0,1903	0,2246
Elementary school	bv: highest education is elementary school	0,3934	0,3982
Vocational school	bv: highest education is vocational school	0,3179	0,3926
Secondary education	bv: highest education is highschool	0,2181	0,1903
Tertiary education	bv: college, university, doctoral program	0,0706	0,0189
Previously worked	bv: worked before becoming unemployed	0,3307	0,5615
Previously studied	bv: studied before becoming unemployed	0,0392	0,0058
Previously in the army	bv: in the army before becoming unemployed	0,0094	0,0065
Previously stayed at home	bv: stayed at home before becoming unemployed	0,0126	0,0043
Previously child care	bv: on child care allowance / fee before	0,0233	0,0258

allowance / fee	becoming unemployed		
Previously else	bv: done something else before becoming unemployed	0,0268	0,0331
1st quarter	bv: observed in the 1st quarter	0,2652	0,1777
2nd quarter	bv: observed in the 2nd quarter	0,2536	0,2149
3rd quarter	bv: observed in the 3rd quarter	0,3149	0,2891
4th quarter	bv: observed in the 4th quarter	0,1663	0,3183
2001	bv: observed in 20001	0,4418	0,0834
2002	bv: observed in 20002	0,3746	0,3989
2003	bv: observed in 20003	0,1107	0,1886
2004	bv: observed in 20004	0,0729	0,3291

Drivers of the probability of taking up employment – probit model

In this paper the determinants of the probability of taking up employment are from the following probit regression. Dependent variable is the probability of finding (quitting) a job a quarter later:

- regular social assistance and public work
- participation in active labourmarket programs and other benefits: jobseeker's aid and pre-retirement unemployment assistance
- reservation wage
- duration of unemployment and registered unemployment, and their squares
- age: between 25-34, 35-54 and over 55 years (benchmark age interval: between 18-24 years)
- unemployment rate of the county
- regions: Central Hungary, Southern Transdanubia, Western Transdanubia, Northern Great Plain, Southern Great Plain, Northern Hungary (benchmark region: Central Transdanubia)
- highest education level: vocational school, high school, collage, and university (benchmark education level: elementary)
- number of family members working in the household: spouse works, no one works, only one member works
- number of children and their age in the family: no children, big family, small family
- prior labour market status: in school, in the army, at home, child care allowance / fee, other (benchmark status: employed)
- quarter of observation: quarter 1-3 (benchmark quarter: 4th quarter)

Determinants of the conditional probability of becoming employed taken into account the length of the observed unemployment – duration model

Dependent variable: becoming employed one quarter after (Fail). Explanatory variables:

- regular social assistance
- reservation wage
- duration of registered unemployment, and their squares
- age: between 18-24, 25-34 and 35-54 years (benchmark age interval: over 55 years)

- highest education level: elementary school, vocational school, high school, collage, and university (benchmark education level: not even elementary school)
- infant in the family
- spouse works
- unemployment rate of the region
- year and quarter of observation: year 2 - year 4, quarter 2 – quarter 4 (benchmark year and quarter: 1st year and 1st quarter)
- t1, t2, t3, t4 (necessary variables of duration models)

Estimates were made by the Jenkins method (assuming discrete time, with logit estimate function).

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